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NEXT ANNUAL SESSION, PHILADELPHIA, JUNE 8-12, 1931

Boyd's Surgical Pathology

SECOND EDITION

The entire book was reset. Whole sections were rewritten, others recast, and extensive and important additions made to practically every chapter. There were added 130 illustrations.

To be more specific: The chapters on the thyroid and stomach were rewritten, as were the sections on the etiology of tumors, including melanomata, lymphosarcoma, tumors of the testicle and of the kidney, carcinoid tumors of the appendix, and endometrial implants.

Another added chapter gives practical suggestions as to how the surgeon may utilize the assistance of the laboratory. The chapter on the spleen was recast and includes Barcroft's physiological researches. The classification of the glioma group was recast on the basis of Bailey and Cushing's work. The section on malignant tumors of bone was rewritten, reflecting the information obtained from the Registry of Bone Sarcoma of the American College of Surgeons. Among other added material may be mentioned Cadham's work on the treatment of septicemia, tissue cultures, precancerous lesions, carotid body tumors, tumors of the xanthoma group, pituitary tumors, diverticulosis and the prediverticular state, Wilkie's work on the etiology of chronic cholecystitis, Counsellor and McIndoe's work on hydrohepatosis, chronic serous arachnoiditis, etc.

Octavo volume of 933 pages, with 474 illustrations and 15 color plates. By WILLIAM BOYD, M.D., M.R.C.P. Ed., Dipl. Psych., F.R.S. Can., Professor of Pathology, University of Manitoba. Cloth, $11.00 net

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THE TREATMENT OF EMPYEMA BY ASPIRATION AND AIR REPLACEMENT WITHOUT DRAINAGE

REVIEW OF THIRTY-FIVE CASES *

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NEW ORLEANS

Empyema may be defined as the presence of pus in any portion of either pleural cavity. It is the result of infection, which may be introduced in three different ways: first, though rarely, through the blood stream; second, directly through a wound; third, and most frequently, through the spread of an inflammatory or septic process from the lung or other adjacent structure.

Whatever the source or cause of pleural infection may be, it will result either in a local walled-off abscess or in purulent infection of the entire pleural cavity. If the site of infection is in an adherent area or in an area that is in great part surrounded by pleural adhesions, or if the process is slow so as to permit adhesions to form, and especially if it is situated in an interlobar area where there is little movement between the two surfaces—if one or more of these conditions exist, a local abscess will result. This abscess may be situated in any region of the chest. In some situations it may be necessary, in order to reach it, either by exploratory puncture or by operation, to traverse the normal or pathologic lung tissue or the normal pleural cavity. It may, on the other hand, be just under the parietal pleura, when it may be treated as an abscess of the chest wall.

If the site of infection is not in an adherent area and the process of infection is rapid, such as the sudden bursting of a small cortical lung abscess, giving no time for the pleura surrounding the area to become adherent, the entire pleural cavity may in a short time become filled with pus.

A small localized cavity, in which the amount of pleural surface involved is not great, will behave much like an ordinary abscess and will contain, as it grows large, only a comparatively small amount of fibrinous exudate. When a large amount of pleural surface is involved, large masses of fibrin form which later become detached from the surface, at least in part, and float in the pus cavity. When open operation and drainage has been the method of treatment, the cavity closes to a great extent by granulation and firm adhesions result, especially in the vicinity of the sinus that forms around the tube or other agent used for drainage.

Whatever the method of treatment employed, no cure is possible until the source of infection or contamination of the cavity ceases to act as such. Thus, if a small cortical abscess has caused an infection of the pleura with the development of empyema and this abscess continues to drain into and reinfect the cavity, no cure will be possible as long as this continues. This is true also when a bronchial fistula exists. If open operation is done in such a case, prolonged drainage follows, resulting in thick walled sinus formation, the walls of the pus cavity, as a result of prolonged inflammatory infiltration, finally becoming so rigid that even though the source of infection ceases, the cavity cannot readily collapse and heal, and may require extensive surgery, such as some method of thoracoplasty.

The mortality from the routine method of incision and tube drainage had not attracted the serious attention of the profession until the World War, when large numbers of cases of empyema were treated in special wards and special departments in the various army hospitals, affording the opportunity for the collection of a large body of statistics. When the reports were tabulated in the surgeon general's office, it was found that the average mortality rate was about 30 per cent and that in some hospitals it ran as high as 70 per cent. It was clear that something was wrong with the existing methods of treatment of empyema. The highest mortality was in those patients who were operated on immediately after a diagnosis of empyema was made. The mortality was greatly reduced by not operating till several days after an effusion became purulent, giving time for inflammatory infiltration of the pleura and especially of the mediastinal pleura to render the pleural cavity less elastic, thus diminishing the shock and respiratory and cardiac embarrassment following open drainage. The period of hospitalization was shortened and the number of cases developing chronic discharging sinuses was greatly diminished by the use of surgical solution of chlorinated soda for irrigation of the cavity, which seemed to cause a solution of the fibrinous exudate, sterilized the cavity and hastened the period of closure.

The treatment employed for empyema in the past has been incision and drainage in some form, though the literature is full of references to the occasional accidental cure of empyema by simple aspiration. More recently many methods of closed drainage have been devised with some form of suction intended to help obliterate the cavity. Some of these act by some valvular attachment, which permits egress of air and fluid but no ingress. The last word, however, has

* Read before the Southern Surgical Association, Lexington, Ky., Dec. 11, 1930.

* From the Department of Surgery, Tulane University of Louisiana Graduate School of Medicine, the Division of Surgery, Charity Hospital, and the Department of Surgery, Hotel Dieu.

probably not yet been said on this subject. Any additional contribution, therefore, should be of interest.

I am presenting a treatment for empyema that I have used since 1923. It has proved to be as satisfactory as the more accepted methods, and I believe that it is safer and in the long run calculated to reduce materially the present mortality. There have been two deaths in the series, neither of which I think can be attributed to the method. The first of these two patients was a man, aged 75, who died two days after an incomplete second aspiration with the symptoms of pulmonary embolism. The second was an emaciated child, aged 9, brought in in a moribund condition, who died a few hours after partial removal of a purulent effusion that filled the entire hemithorax and pushed the heart and mediastinum beyond the midline. All the other patients made a complete clinical recovery and all have been checked up by repeated roentgenograms of the chest. Briefly, the treatment consists in emptying the empyema cavity of pus, preferably through a large needle, and gradually, as the pus is being removed, replacing it with air, the volume of air injected being equal to that of the pus removed. No drain is used, no form of suction, or irrigation. In no case in which the treatment has been instituted and which I have been able to follow to ultimate conclusion has it been necessary to resort to open or closed drainage.

This treatment has been applied in an uninterrupted series of thirty-five cases as the patients presented themselves in my service, as referred to me by other members of the visiting staff at the Charity Hospital, and as encountered in the course of my private practice at the Hotel Dieu.

The etiology was lobar pneumonia in twenty cases, influenza five, gunshot wound one, stab wound two, unclassified pulmonary disease four, pelvic infection one, perinephric abscess one, uncertain one. The pneumococcus was found in smears or cultures in twenty-one, streptococcus four, staphylococci three, mixed infection two, unknown four, negative one. Six patients were from 3 to 12 years of age, and twenty-nine ranged from 14 to 75 years.

There was not a serious infection of the chest wall resulting from the many needle punctures. In a few instances a small pustule indicated the point of needle puncture and in one case an incision was required for a small superficial abscess.

I had been doing air replacement in the aspiration of nonpurulent pleural effusions since my return from overseas in 1919, where I became much interested in the work of Morelli, the pupil and successor of Forlanini in the University of Pavia, whose special hospital for thoracic wounds was situated on the Italian front a short distance from U. S. Base Hospital No. 102, and who reported a large series of chest wounds treated by closed pneumothorax with a remarkably low death rate. He stressed the fact that the thorax should be early emptied of all blood and this replaced with air.

My first experience with this method in treating empyema was intended as preliminary to a later thoracotomy. There was so much improvement following removal of 300 cc. of pus and its replacement with air that the patient demurred at operation and suggested another aspiration, which was done, and then another, after which she was perfectly well.

TECHNIC

By physical examination and close study of the roentgenograms, the site and outline of the purulent effusion are determined. A point in the intercostal space corresponding to the lowest point of the empyema cavity is anesthetized with 0.5 per cent solution of procaine hydrochloride, infiltrating all the tissues from skin to pleura inclusive. A large needle is now attached by a *stiff rubber tube* connection to a 50 or 100 cc. Luer syringe and inserted at this point. A syringeful of pus is now aspirated, the tube is clamped with hemostatic forceps, the syringe is disconnected, emptied, filled with an equal quantity of air and reconnected to the tube and needle, the forceps are unclamped, and the contained air is injected. This alternate aspiration of fluid and injection of air is repeated until, on aspiration, air comes through the needle, which shows that the needle point is now above the fluid line or that all fluid has been aspirated. The patient and the needle are manipulated so as to make sure that the needle rests in the bottom of the pus cavity, and the procedure is repeated until air again comes from the needle, which indicates that no more fluid remains. This is preferably done with the patient sitting up, but very sick patients are treated lying down with the head and shoulders slightly elevated.

When the amount of pus is large, a second spot in the chest wall is infiltrated with the anesthetic solution and a second smaller needle is introduced. The first larger needle is connected to the suction apparatus and the second needle to some form of pneumothorax apparatus whereby the amount of air that comes through can be measured. The suction apparatus is now turned on and the pus is rapidly withdrawn. As each 100 or 200 cc. of fluid is drawn into the suction chamber, a corresponding quantity of air is injected. Thus, the architecture of the cavity, as it were, is not altered, and the hydrostatic or rather the physical compression of the lung is undisturbed, the inelastic fluid mass being replaced by an elastic air cushion.

The amount of pus removed has varied from a few cubic centimeters to as much as 3,000 cc. at one time. The procedure is repeated as often as the fluid accumulates, on an average about every six days. Patients leave the operating table feeling relieved, and, having had no discomfort during the procedure, except for the infiltration of local anesthesia, willingly and cheerfully submit to subsequent aspirations.

In some cases the fibrinous exudate prevents complete emptying of the cavity by blocking even the largest needle, rendering it possible to aspirate, at most, only from a half to two thirds of the contained pus. Two courses have been followed in meeting this situation. First, if one will have the patience to wait, the fibrinous exudate will eventually liquefy. I have been on the point of making an incision in a number of these patients, but after repeated aspirations the contents finally became perfectly fluid and it was possible to empty the cavity entirely. The suggestion might here be made that if surgical solution of chlorinated soda were used it might, as happens in the drainage cases, cause the solution of the exudate and shorten the period of treatment. I have purposely not done this, because I have been anxious to prove definitely that an empyema cavity will heal without any further aid than the removal of its contents. Second, in five cases in which the largest available needles became blocked, a small intercostal incision was made, just large enough to introduce the index finger; the patient was turned so that this incision lay at the most dependent part of the cavity, and he was instructed to perform repeated forced inspiration and expiration while forceps kept the incision open, masses of fibrin

being removed by the same forceps as they appeared in the wound, until the entire cavity was thoroughly emptied of fluid and fibrin. If the patient becomes shocked or has a tendency to cough, the wound is closed by digital pressure and the patient is immediately relieved. After a moment the procedure is continued as before. When the chest has been entirely emptied, the patient takes a final deep inspiration, at the end of which the lips of the wound are compressed digitally and kept so by a gauze compress. These wounds do not drain; they heal readily and have to be reopened if the procedure is to be repeated.

If one tries to empty the chest of a fluid accumulation by simple aspiration, and without air replacement, one eventually has to stop without removing all the fluid for one of two reasons: either the negative pressure becomes so great as to cause pain and respiratory or cardiac embarrassment or the needle will come in contact with the visceral pleura and cause pain, coughing, dyspnea and shock. If, instead, the fluid is gradually replaced with air as it is removed, the cavity maintains its original size and shape, and every drop of the fluid can be removed with practically no discomfort to the patient. The treatment can be given lying in bed and is therefore especially applicable to very sick patients, quite in contrast to the danger of serious shock following any form of thoracotomy.

I believe that complete emptying of the cavity is essential to bringing about a cure. One patient was cured with one aspiration. Some patients have had ten or more. The average has been about four. When the cavity has been entirely emptied, the patient's temperature drops to normal in a few hours and he feels greatly improved and is able to eat, sit up, and take an interest in all things about him. If the aspiration is not immediately followed by this improvement, it means that there is another cavity which had not been reached or that the patient has some other serious pathologic condition that is making him sick, and a diligent effort must be made to find it.

My second patient had three separate cavities, the roentgenograms taken after partial emptying showing three separate fluid lines. These cavities communicated with one another, and by rolling the patient first one way and then the other we were able to get the fluid from all cavities against one side of his chest wall and aspirate it. In some of these patients there are separate cavities that do not communicate with one another. In one case, after quite a large cavity had been evacuated and the pus replaced with air, the patient continued to have elevated temperature and to look sick. The roentgenograms showed a dense area, and aspiration revealed another cavity, above the one that had previously been emptied. This was treated the same way and she made an uninterrupted recovery. There were three such cases in the series.

When the patient is first seen, it is often impossible to determine definitely the size and location of an effusion by physical examination and the roentgenogram alone, especially if the picture has been taken with the patient lying down and with the plate under him. The removal of a small quantity of fluid and its replacement by air makes it much easier to do so. The roentgenograms must be taken, however, with the rays directed in a *horizontal* direction, the plate being in front of or behind the patient or placed laterally against the chest, the patient being made to sit up, then lie laterally, on his back, and finally on his face. In this way a fluid line is shown with air above it and the outline of the cavity above the fluid line can be clearly made out. Even if only a small quantity of air is present, by repeated change of position the various walls of the cavity can thus be definitely outlined. When the cavity has been entirely emptied of fluid, which has been replaced with air, its outline usually stands out clearly in the picture; but if the cavity is wholly or partly filled with fluid and the picture is taken with the patient lying down and the rays directed *perpendicularly*, it may show nothing clearly indicative of a definite cavity or effusion.

I have learned that empyema cavities are often irregular in shape and may be in any position in the chest. I used to think that the pus poured into the pleura and gravitated to the lowest part of the cavity. This is by no means the rule, for even when the cavity is in the lower part of the chest it is usually walled off and if the needle is inserted a little in front of or behind a given spot it may be missed. In only a few cases was the pus free in the pleural cavity.

In some of these cases, for periods of as much as five and six weeks the cavities went on refilling in spite of repeated aspirations, with no improvement in the local pathologic conditions or in the general condition of the patient. These were those in which the infecting focus in the lung continued to pour infection into the cavity. One was a gunshot wound with a bronchial fistula. The cavity continued to refill until the fistula finally healed, after which the patient's improvement was quite rapid. There is nothing to do in such a case but wait till the lesion heals or the bronchial fistula closes. This can usually be encouraged by increasing the amount of air injected, thus further compressing the lung and favoring the closure of an opening or cavity on its surface. If however, there is already positive pressure, resulting from coughing of air into the cavity, this must be relieved by frequent repeated aspiration of air.

Accustomed as I am to seeing the abundant copious drainage from open thoracotomy, I have been surprised in the average case of this series to find only from 100 to 300 cc. of pus accumulating in an average period of six or eight days. This probably means that, as in the peritoneal cavity, most of the drainage results from irritation from the presence of the drain.

What is the mechanism of cure? An abscess of any other soft region is treated by incision, and probably drainage, so that the contents of the cavity can find an exit. The infection in such a case is taken care of by the tissues without any further aid. There may be sloughs of necrotic tissue which become separated and are thrown off. As these separate, a clean, granulating cavity is left behind which gradually closes up. There was bacterial infection in such a cavity; what has become of the bacteria? Incision and drainage have removed those that were in the purulent fluid and in the necrotic material that came away. Those that still remained on the surface of the cavity must have been destroyed by the fixed tissue cells, phagocytes, or what not. Whatever the explanation may be, localized bacterial infection is cured by the simple process of finding an exit for the contents of the abscess cavity. I think it should be easy to see the analogy in the case of an accumulation of pus in the pleura. If the liquid and solid contents are removed, the same object is accomplished as in incision and drainage in treatment of an ordinary abscess of the soft structures anywhere else.

By replacing these contents gradually with an equal volume of air, one does not interfere with the existing

relation of all structures, so that no trauma of any kind is done. Later, during the next two or three weeks, the air is gradually absorbed, the negative pressure in the pleura is reestablished, and, when all air has been absorbed and the fluid has ceased to reaccumulate, the lung is finally again in contact with the parietal pleura and the condition is cured.

A close study of the cases treated by drainage will show that in the final stage the drain is surrounded by granulations, and though irrigation may indicate a cavity containing only a few cubic centimeters, there may be a large pneumothorax occupying the greater portion of the original pus cavity, which no longer communicates with the area drained by the tube. The tube being removed at this stage, the sinus closes rapidly; but the pneumothorax area, gradually getting smaller, can be made out for many days and perhaps weeks later. In other words, in this late stage the cavity has been emptied of its solid and liquid contents, and air only is present, the same condition that results from aspiration and air replacement. So, after all, there is basically nothing new in the treatment advocated.

This method has several advantages over the usual other means: There being practically no trauma to lung or pleura, there is every reason to feel that, as happens in the peritoneal cavity when the peritoneum is not unduly traumatized in the course of an abdominal operation following an infection, the pleural surfaces may finally be free again and not adherent, as must be the case when open thoracotomy and drainage have been done. There being no drain, there is no secondary infection introduced from the outside, and hence a shortening of the period of healing and less tendency to rigid incollapsible walls and sinuses that sometimes follow drainage operations. The cavity will close, for it must when all air has been absorbed; hence there will be no chronic cavities. The patient is spared an operation, which itself has a certain percentage of mortality. In its stead is substituted an aspiration which is practically painless and to which the patient gladly submits again and again if necessary. The patient or hospital is saved the expense of frequent dressings and irrigations, and the patient is kept in bed for only a comparatively brief period.

Let me state here that, though easier on the patient, this method calls for constant attention and the expenditure of much time, patience and thought by the surgeon himself and is not to be lightly undertaken by a medical man or one not prepared for every possible surgical contingency.

Whether all cases of empyema can be cured by this method, experience alone will teach. I present this paper with the hope that others may try it and find out further its value and limitations.

During the handling of this series, I found myself often wondering how this treatment would work in infection of other serous cavities. I determined, therefore, to try it out at the first opportunity. Three cases have been successfully treated so far:

1. A case of prepatellar bursitis with two aspirations.

2. One case of this series in which, in the course of a buttonhole incision to evacuate a cavity in which fibrinous masses blocked the aspirating needle, a nick was made in the diaphragm through which the glistening peritoneal surface of the liver could be seen to glide up and down with each respiration. This man developed an acute pneumococcal peritonitis from which it looked as though he would die but which finally cleared up, leaving a residual abscess in the peritoneal space between the liver and the right side of the diaphragm. This abscess was treated by aspiration and air replacement and healed promptly.

3. A case of streptococcal infection of the left knee complicating a pelvic infection, following an abortion, in which the patient was cured with three aspirations, every drop of pus being removed each time, with air replacement. She made a complete recovery, with perfect functional results and no impairment whatever of the knee joint.

It seems to me that this method should work satisfactorily in some cases of chronic empyema and should be given a trial, when applicable, before major surgery is done in these cases, or perhaps in conjunction with major surgery.

I am also wondering whether this treatment might not be applicable to purulent pericarditis and to those desperate pyogenic infections of the cerebrospinal meninges in the face of which surgeons are so helpless with the other means now at their command.

COMMENT

A method of emptying the chest with replacement of the fluid with air is described, which has been used in the evacuation of pleural effusions of all kinds, the entire quantity of fluid being removable by this method with practically no pain, trauma or shock.

Thirty-five consecutive cases of empyema, occurring in private practice and in a state hospital, treated by this method since 1923 are reviewed, and three cases of purulent infection of other serous cavities also successfully treated by this method are cited, with a suggestion for its further trial.

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INSULIN IN MALNUTRITION

PRELIMINARY REPORT

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This is an age when the slender figure is considered the acme of perfection. It is a thing desired and sought for by members of both sexes. This is particularly true with women. Physicians are constantly consulted by people who desire to lose weight. These far outnumber an important group who desire to gain weight. Should Dame Fashion decree that the figure is to be more plump, this group may be greatly augmented by persons who are at present voluntarily starving themselves. At this time it is necessary to deal with the asthenic, undernourished and visceroptotic individuals who have heretofore presented a complex problem to the physician. In 1925, this problem was solved by one of our German colleagues.[1] Since then, numerous articles have appeared in the foreign literature, particularly in the German, confirming and elaborating the original scheme. The increase in weight is brought about through the use of insulin in persons with an apparently intact carbohydrate metabolism. In this country, insulin has been associated with diabetes mellitus. Now its expanding sphere of usefulness is being realized and it will only be a question of time until its usage will become as important in the nondiabetic as in the diabetic patient. Its usage does not produce deleterious effects on the animal economy and it can be used indefinitely without its value being impaired by unforeseen occurrences. The research, in

1. Falta, quoted by all German authors.

this respect, has already progressed too far to be looked on as a fad and later discarded. It has come to stay, and it marks another great contribution to the study of the mysterious endocrine system of glands.

While this treatment was first used in the undernourished, its sphere of usefulness has expanded until it now has various indications. It may be used in almost any condition in which there is undernourishment. Patients with a constitutional asthenia and poor nervous and physical stamina, conditions which are not as yet fully understood, react very satisfactorily, and the visceroptotic patients are particularly grateful. Nichol [2] reports that such patients have gained weight, improved subjectively and retained the added weight after the insulin was stopped. It is used with advantage in the treatment of afebrile and subfebrile tuberculosis.[3] This must not be an indiscriminate usage, for even latent tuberculosis may be activated. This may be due to a protein impurity and may become less dangerous as greater purity is reached. Dolore suggests that it combats the development of tuberculosis by its alkalizing influence. Gabbe [4] brings about a gain in weight and an improvement in the general condition in patients with cancer. It is quite obvious that it would not influence the malignant condition, but the favorable influence of prolonging life and the effect on the psyche cannot be evaluated. Appel [5] has reported favorably on its usage in psychotic patients. There was a gain of weight, improved appetite and food intake, and an improved mentality. Simici [6] found it useful in certain forms of gastric atony accompanied or not by depressive troubles of secretion and general emaciation. Simnitzky [7] found that its administration had a quieting effect on the pain of peptic ulcer. On a regular diet, his patients were relatively free from recurrences. He thinks that this is brought about by its influence on the vegetative nervous system. Goyena [8] has brought about complete cures of gastric ulcer both from a roentgen and a laboratory standpoint.

The question naturally arises as to the operative mechanism of insulin. It is thought to bring about an increased permeability of the cells for sugar. The cells quickly oxidize part of the sugar and the other part is quickly changed into glycogen. Parallel with these changes in the carbohydrate there is its union with water. In the tissues, insulin also brings about a change of carbohydrate into fat and increases the glycogen in the musculature. One learns in early school days that glucose (*d*-glucose) is the only form of carbohydrate that the body can utilize. One also learns that there are three forms of glucose best recognizable by their specific rotatory powers. Alpha and gamma are the pure forms and the third, beta, is a mixture of the other two. It is now known that insulin converts glucose into an easily oxidizable form, but how this differs from the known forms is not as yet ascertained. Insulin [9] also increases the basal metabolism with an accompanying rise in the respiratory quotient. This tends to persist for several days and is probably brought about through the sparing of protein.

Insulin and epinephrine are antagonists, and this antagonism maintains a balance in the carbohydrate metabolism. Insulin favors the entrance of sugar into the cells, while epinephrine retards it. It further increases the change of carbohydrate into fat, and epinephrine hinders such a change. Cori [10] holds that epinephrine promotes the decomposition of body glycogen with the production of lactic acid, which is carried by the blood to the liver and is there changed to glycogen: Epinephrine decreases the utilization of glucose in the tissues without increased glycogenolysis in the liver. Since insulin increases liver glycogen,[11] the liver is indispensable as a temporary storage of carbohydrate and has to do with the transformation into blood sugar of any potentially dextrose-forming substance, such as lactic acid and certain amino-acids. Insulin increases the combustion of carbohydrate in the tissues in the absence of the production of sugar from other sources. Therefore, it causes the storage of glycogen and inhibits the conversion of glycogen into combustible sugar.

Cannon [12] points out that the phenomena observed in hypoglycemia are sympatheticosuprarenal impulses. Insulin lowers the blood sugar by causing the storage of glycogen in the liver and musculature. Epinephrine is therefore glycogenolytic and insulin is glycogenetic. Therefore, when any abnormality exists there is a natural righting response which restores the normal equilibrium. For example, when the blood sugar is low, before a convulsive state is reached, the sympatheticosuprarenal system is brought into action and sugar is liberated from its storage. So much sugar is set free that, if the condition producing the hypoglycemia is not overwhelmingly effective, the danger is soon passed and this system subsides into inactivity. Thus epinephrine and insulin [13] are antagonistic in reference to the storage of glycogen in the liver but they may be corroborators in the oxidation of sugar in the musculature. He further points out that epinephrine cooperates with sympathetic impulses and produces the same effects that they produce. He likewise feels that insulin is influenced and probably more or less controlled by the vagus nerve or parasympathetic system.

According to Staub,[14] insulin production from the cells of the islands of Langerhans is not physiologically constant and uniform but is adapted to the requirements of the individual. When sugar is eaten, an excess is produced and in hunger there is an endogenous hypoinsulinism. Carbohydrate, therefore, furnishes an adequate stimulus for an increase of endogenous insulin production. He further argues that fasting has a low insulin content or ketosis would not appear.

Schellong [15] has found that the activity of the islands tends to be subnormal during the first few days of the

2. Nichol, E. E.: Use of Insulin in Fattening Lean Individuals, J. Florida M. A. **16**: 29 (July) 1929.

3. Märtensson, Arthur: Insulin in Undernourished Tuberculous Patients, Ugesk. f. læger **91**: 506 (June 13) 1929; abstr. J. A. M. A. **93**: 814 (Sept. 7) 1929. Combemale, F.; Gernez, C., and Breton, A.: Insulin for Increasing Weight in Pulmonary Tuberculosis, Ann. de méd. **26**: 480 (Dec.) 1929; abstr. J. A. M. A. **94**: 1356 (April 26) 1929. Dolore, P.: Quoted by Morin, J., and Bouessee, F.: Fattening by Means of Insulin in Tuberculosis, Ann. de méd. **22**: 308 (Oct.) 1927; abstr. J. A. M. A. **90**: 242 (Jan. 21) 1928.

4. Quoted by Wiechmann (footnote 21).

5. Appel, K. E.; Farr, C. B., and Marshall, H. K.: Insulin in Undernourished Psychotic Patients, J. A. M. A. **90**: 1988 (June 2) 1928.

6. Simici, D.; Giurea, C., and Dimitriu, C.: Action of Insulin on Motility and Evacuation of the Stomach, Arch. d. mal. de l'app. digestif. **17**: 17 (Jan.) 1927.

7. Simnitzky, S. S.: Insulin in the Treatment of Peptic Ulcer, Wien. med. Wchnschr. **40**: 1635 (Dec. 29) 1927; abstr. J. A. M. A. **90**: 815 (March 10) 1928.

8. Goyena, J. R.: Gastric Ulcer Cured by Insulin, Semana méd. **34**: 1325 (Nov. 17) 1927; abstr. J. A. M. A. **90**: 425 (Feb. 4) 1928.

9. Campbell, W. R., and Macleod, J. J. R.: Insulin and Its Use in Diabetes, Baltimore, Williams & Wilkins Company, 1925, p. 83.

10. Cori, C. F., and Cori, G. T.: J. Biochem. **79**: 309, 321, 343, 1928. Epinephrine and Carbohydrate Metabolism, editorial, J. A. M. A. **91**: 1634 (Nov. 24) 1928.

11. Hepatic Activity, editorial, J. A. M. A. **92**: 1866 (June 1) 1929.

12. Cannon, W. B.: The Autonomic Nervous System (Linacre Lecture), Lancet **1**: 1109 (May 24) 1930.

13. Cannon, W. B.: General Features of the Endocrine System on Metabolism, Am. J. M. Sc. **171**: 1 (Jan.) 1926.

14. Staub, H.: The Mechanism of the Action of Insulin, Schweiz. med. Wchnschr. **57**: 483 (May 21) 1927.

15. Schellong, F., and Kramer, A.: Further Observations on Insulin Fattening, Klin. Wchnschr. **7**: 1726 (Sept. 9) 1928.

treatment with insulin. This gradually increases and gives place, about the end of the second week, to an overproduction. This was ascertained through glucose tolerance tests. He also found that the peak of the blood sugar curve is reached more quickly during the treatment. The general configuration of the curve, however, is the same. He explains this phenomenon as an earlier liberation of the endogenous insulin.

Diabetic edema is a familiar phenomenon. It may be mild or severe and even progress to ascites. This fact would lead one to consider the possibility that the gain in weight in the nondiabetic patient could be due to a change in the water retention. While water retention undoubtedly plays an important rôle, no patient has been reported who has developed edema. The mere fact that the weight is maintained or even increased after insulin is stopped further contradicts the possibility of edema. Frank [4] explains it as a special union of water in the tissues and cells through carbohydrate. It is generally conceded that undernourished people drink too little water, probably because of an underfunction of the diuretic powers. Insulin may therefore aid in the readjustment of the water metabolism and thus account for the rapid initial gain in weight during the treatment. The question of water retention is difficult to solve because it is not known whether the water is retained in the blood or in the tissues. Probably both are important factors. Leifer,[16] however, believes that insulin increases the hydration capacity of the tissue colloids of the body.

INSULIN FROM THE STANDPOINT OF ENDOCRINOLOGY

Fonseca [17] advances the idea that the majority of cases of obesity are due to an absolute or relative hyperinsulinism. He explains his conception by the fact that obesity frequently precedes diabetes. The overworking pancreatic islands finally become exhausted and a condition of hypo-insulinism is brought about. Then, as too much insulin was effective in the formation

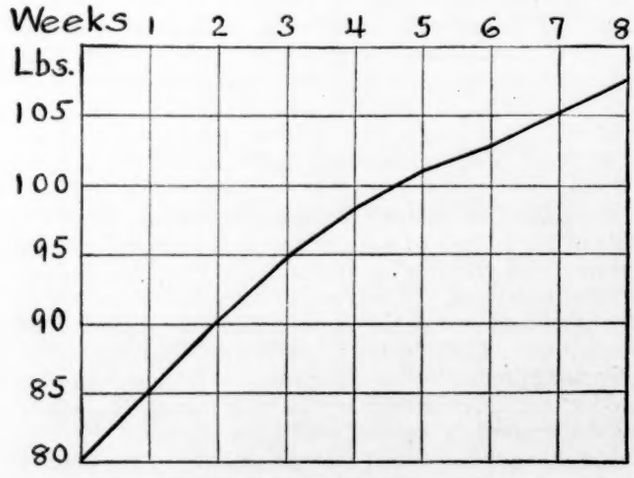

Fig. 1.—Weight curve in case 1.

of fat deposits and the sparing of fat already stored, too little insulin causes the patient to produce sugar from his own fat with the resultant emaciation. It may be inferred from this that constitutional asthenia is in reality an endocrine disturbance. Its treatment with insulin is therefore quite as logical as the treatment of obesity with thyroid and pituitary extracts, natural and physiologic antagonists of insulin.

This idea is further exemplified by the action of insulin in other conditions. In patients with toxic goiter, it causes a gain in weight and renders them more

Fig. 2.—Patient 1: at left, before administration of insulin: at right, after eight weeks of treatment with insulin.

quiet. The important symptoms and signs, however, persist. Ulrich [18] feels that the secretion of the posterior lobe of the pituitary gland antagonizes insulin and, in such conditions as acromegaly and hyperpituitarism, it may show varying degrees of therapeutic efficiency, particularly when there is a loss of carbohydrate tolerance. Vogt [19] feels that its action parallels ovarian activity and is activated by it. He has noted that insulin is more active before the menses when the blood is rich in ovarian hormone and less active a few days afterward when there is less ovarian hormone. This leads him to believe that insulin might be used in the control of uterine bleeding often seen in young women, the so-called ovarian or functional bleeding. At any rate, it illustrates further the interdependence of the whole endocrine system of glands.

RELATION OF INSULIN TO THE DIGESTIVE TRACT

The quantity of food that an individual can consume and apparently digest is, in some instances, astounding. The question naturally arises as to the action of insulin on the stomach. Investigation by means of the roentgen ray has shown that the emptying time is greatly shortened. The effect on the acidity is less definite. Cascao [20] has found that it stimulates the amount of hydrochloric acid secreted and stimulates the motility of the stomach. It likewise has a stimulating effect on the duration and amount of gastric juice secreted and a similar effect on the secretion of enzymes. Simici [6] has observed that there is at first an inhibition of gastric motility. Then the contractions suddenly become more ample, even exceeding their amplitude before the injection of insulin. The hypermotility

16. Leifer, Aaron: Diabetic Edema, J. A. M. A. **90**: 610 (Feb. 25) 1928.
17. Fonseca, Fernando: Emaciation and Insulin, Arch. f. Verdauungskr. **42**: 362 (April) 1928; abstr. J. A. M. A. **91**: 362 (Aug. 4) 1928.
18. Ulrich, Helmuth: Antagonism Between Insulin and Pituitary Extract, Arch. Int. Med. **41**: 875 (June) 1928.
19. Vogt, E.: Dependence of the Action of Insulin on the Ovary, Deutsche med. Wchnschr. **54**: 702 (April 27) 1928; abstr. J. A. M. A. **91**: 214 (July 21) 1928; abstr. Am. J. M. Sc. **176**: 443, 1928.
20. Cascao de Anciaes, J. H.: Insulin and Gastric Function, Arch. f. Verdauungskr. **42**: 337 (April) 1928; abstr. J. A. M. A. **91**: 363 (Aug. 4) 1928.

reaches its maximum at the maximum decrease of the blood sugar content. He feels that insulin acts on the sympathetic nervous system of the stomach and inhibits motility at first; then, with hypoglycemia, the action is reflected on the parasympathetic system with hypermotility, hypersecretion and hyperacidity.

Since the use of insulin in malnutrition is yet more or less in the experimental stage, there is no standardized dosage. Therefore this varies with the experimenter. It is given subcutaneously and the same precautions must be taken as when it is used specifically in regard to fibrosis. Wiechmann [21] starts his patients on the small dose of 5 units twice a day and gradually increases up to 30 units five times a day. He emphasizes the fact that individual tolerance varies and one should avoid hypoglycemic conditions. While this procedure can best be carried out in a hospital, it has proved satisfactory in ambulatory patients. Here again he uses the initial dose of 5 units twice a day and then increases it to 20 units three times a day. The dosage must necessarily be smaller because conditions are not so well under control. Bauer [22] points out the cumulative action of insulin and warns against the possibility of danger. He feels that one daily dose of 20 units before the midday meal is most satisfactory in ambulatory patients. The last injection should be given before 7 p. m., whether the patient is ambulatory or hospitalized. This avoids extra food, an interference with sleep, and the possibility of an insulin reaction during the night. It is my custom to order the usual general diet and to inject the insulin thirty minutes before each meal. On the first day, three doses of 10 units each are given. This is increased 5 units each day up to 20 or 30 units three times daily. I have found 20 units three times daily most satisfactory. I have had no experience with its ambulatory usage.

The insulin reaction, naturally guarded against by the tissue sugar, is an important consideration. It is to be explained minutely and emphatically to all patients who receive insulin. This should be done at the beginning of the treatment. It is really preferable to cause a hypoglycemia and explain fully the symptoms as they

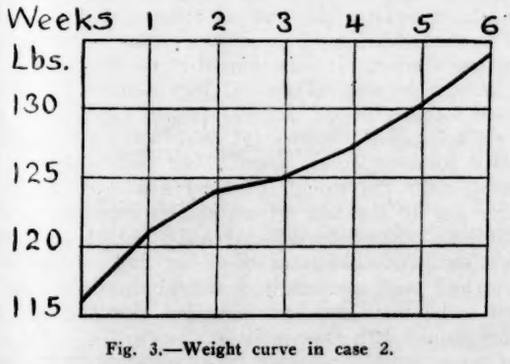

Fig. 3.—Weight curve in case 2.

arise. I have noted that the pulse first becomes rapid and the vision blurred with mydriasis. Then follows the nervousness best illustrated by the increasing tremor of the extended fingers. Then ensues hunger, which becomes more and more intense. Then appears perspiration with its subsequent thirst and weakness. These symptoms are important to the patient in inverse proportion to the stability of the nervous system. I do not allow my patients to show greater evidence of hypoglycemia than is indicated by these symptoms.

The rapidity with which the hypoglycemic symptoms disappear, following the ingestion of sugar, is almost miraculous. After one experience with a hypoglycemic state, the patient takes a recurrence as a matter of course, calmly and without excitement. To give the patient a more profound sense of security, sucrose is kept on the bedside table so that it is easily accessible at all times. As an additional precaution, orange juice and commercial grape juice are readily available. As a

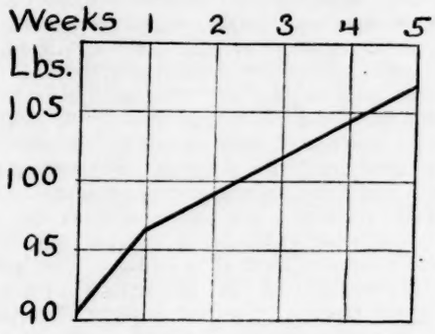

Fig. 4.—Weight curve in case 3.

supplement to these, a tray is in readiness on which are placed all necessary apparatus and materials for intravenous injection of 20 and 50 per cent dextrose in varying quantities. These precautions practically obviate any serious calamity that might be inaugurated.

There is another consideration which must be explained. I have implied that the increase in weight is unlimited. This is not the case, however. When the weight has reached a definite maximum, insulin loses its influence. This maximum is closely governed by the particular individual's normal weight. Thus the tolerance for insulin is comparable to that of thyroid extract in the treatment of myxedema. How long the weight will increase has not as yet been ascertained. In all of my cases it has been maintained or there has been a small gain of from one-fourth to one-half pound each week. It seems that this is a result of an overproduction of endogenous insulin brought about by the exogenous product. Since Schellong [15] found the maximum production of endogenous insulin to be reached about the end of the second week, it seems desirable to continue the treatment at least one month. Then there will be reasonable assurance that sufficient endogenous insulin will be produced to cause a continuation of the inaugurated improvement.

SUMMARY

Among the beneficial effects of this treatment, the gain in weight is of primary importance, although the general improvement frequently surpasses it. This seems to be the result of a readjusted metabolism. Whether this is brought about in the constitutionally asthenic person purely through an endocrine readjustment is, as yet, speculative. Nevertheless, its general effects are quite obvious. With it, the bony irregularities are rounded out by an increase in the subcutaneous tissue. The "lean and hungry look" gives way to an expression full and pleasant. The eyes become more lustrous. The skin acquires a healthier color and turgor. The nervous system is more stable, the mentality brighter, and the outlook on life more cheerful. The disposition is improved. There is an increased strength and vigor. Sleep is more quiet and restful. Ambition

21. Wiechmann, Ernst: Fattening with Insulin, München med. Wchnschr. **74**: 2207 (Dec. 30) 1927.
22. Bauer, Richard: Insulin Fattening, Klin. Wchnschr. **7**: 1743 (Sept. 9) 1928.

and determination are increased. The urine is more copious and the stools are more regular. Indeed, the patients really appear to have a markedly increased interest in life. At some future time, I hope to report a large series of cases observed over a longer period of time. At present, a few unselected case reports are illustrative of the possibilities of the treatment of malnutrition with insulin.

REPORT OF CASES

CASE 1.—A woman, aged 30, supervisor of an operating room, had ill health for several years. This was characterized by a long series of professional procedures without any definite relief. These were an appendectomy in 1919, a tonsillectomy in 1920, a cholecystostomy in 1921, a cholecystectomy in 1922, irradiation with radium for menorrhagia in 1923, irradiation with the roentgen ray for the same reason in 1924, and a radical drainage of the left frontal sinus in 1926. Throughout this time she had six or more severe attacks of colic in the right upper quadrant of the abdomen. She worried constantly about her ill health and undernourished condition. An exploratory operation revealed a few adhesions about the duodenum. There followed little or no relief and her weight decreased from 90 to 80 pounds (from 41 to 36 Kg.). She had no appetite, food was repulsive, and gas and fulness in the epigastrium gave her great concern. She had a slight elevation of temperature in the afternoons, and a roentgenogram of the chest suggested tuberculosis. She was given insulin with an average gain of almost 3½ pounds (1.6 Kg.) a week. Figure 2 shows her condition before and after the treatment better than it can be described in writing. She says that she cannot remember when she has felt so well. Her weight is still increasing and she is working efficiently and happily.

CASE 2.—A registered nurse, aged 22, entered college against her will. Her poor adjustment, coupled with a love affair the outcome of which was uncertain, impaired her general health. Her nervous system became more and more unstable, and vomiting began. This gradually progressed from a simple regurgitation to the loss of almost every meal. There was a progressive loss of weight and she entered the hospital. Physical and laboratory examinations were essentially negative. After a week at rest without any evident improvement, insulin was started and the dosage rapidly increased up to 25 units three times daily. Her average gain was about 2¾ pounds

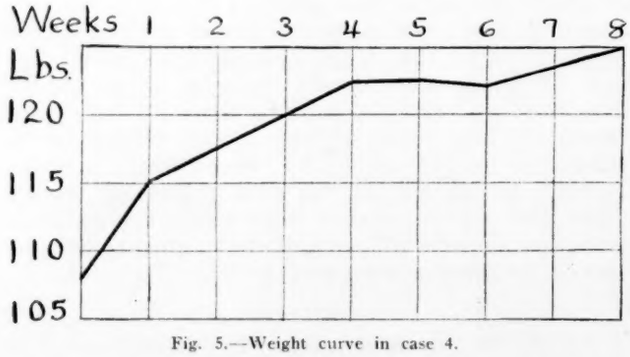

Fig. 5.—Weight curve in case 4.

(1.2 Kg.) a week, the nervous system became more stable, and the vomiting stopped. Her subjective improvement equaled or surpassed her objective improvement.

CASE 3.—A housewife, aged 52, entered the hospital because of headache, vertigo, various aches and pains, and a loss of 14 pounds (6.4 Kg.). Two years before, her condition was considered functional here. She did fairly well with suggestion until six months before. Since then the symptoms had progressed and there had been added a loss of appetite, copious gas on the stomach, some nausea, marked constipation, insomnia, a drawing backache, and general nervous tenseness. Physical and laboratory examinations were essentially negative. Undernutrition and a secondary anemia were quite definite. After a week at rest without improvement, administration of insulin was begun. Her progress was most satisfactory in every respect, especially the gain of almost 3¼ pounds (1.5 Kg.) a week. The indigestion disappeared, she became more cheerful, she worried less, she learned to relax, her sleep became more restful, the aches and pains subsided, and the anemia markedly improved.

CASE 4.—A housewife, aged 29, entered the hospital because of nervousness and loss of weight. Her health was good until the birth of her last child three and a half years before. Then the added responsibility was too much for her. Recently a scandal in her small town and the financial reverses of her husband had impoverished her general health with a loss of weight, loss of appetite, constipation, and an unstable nervous system. Examination revealed undernutrition and a latent tuberculous process in the apex of the left lung. After rest

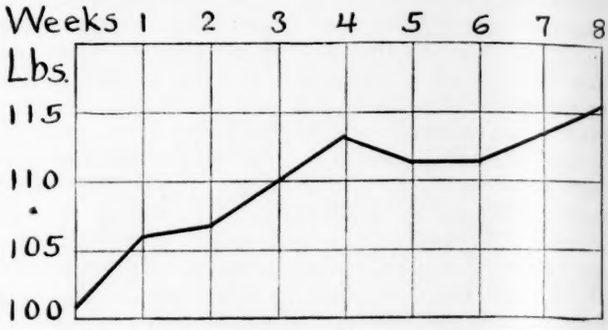

Fig. 6.—Weight curve in case 5.

and changed surroundings did not seem to result in improvement, treatment with insulin was started. Aside from a mild gastro-intestinal disturbance at the end of the fifth week when insulin was stopped for a few doses, her progress has been most satisfactory with an average gain of 2¼ pounds (1 Kg.) a week. She has not had elevations of temperature, her strength has improved, weeping spells are infrequent, sleep is quieter, the skin is more healthy, the stools are more regular, and her general improvement has been much greater than her weight curve will depict.

CASE 5.—An unmarried schoolteacher, aged 34, entered the hospital because of an indefinite pain over the appendix and some vaginal discharge. From her father's people she seemed to inherit a nervous instability. She had had a nervous breakdown four years previously. On admission she was generally fatigued with various pains and aches over the body. Since she was not a college graduate, she had to work hard to retain her position. The uterine cervix was cauterized and the appendix was removed. She did not react satisfactorily. Six weeks thereafter she had no appetite and a recurrence of the nervous breakdown seemed inevitable. Treatment with insulin was started. It was stopped at the end of the fourth week because of marked general improvement, especially an increased stability of the nervous system. After two weeks, the weight began to decrease. Insulin was again started and continued for two weeks longer. The gain was progressive, averaging about 2¼ pounds (1 Kg.) a week. The loss was probably due to the lack of endogenous insulin referred to by Schellong. She became happy and cheerful, more sociable and less seclusive. She returned to her work without an ache or pain and with greater interest and determination. Subsequent communications have revealed that the weight has been maintained with some increase.

Blood Grouping Considered Medicolegally.—Despite the amount of work already undertaken regarding the medicolegal application of blood grouping tests, it is more or less generally accepted that further results must be obtained in order to endorse their reliability and specificity, before courts of law are likely to accept inferences and findings based on them. The present results are such, however, that there is every justification in treating the subject in extended form, since the principles and technic of blood grouping are almost certain to be inevitable essentials in routine medicolegal practice in Britain in the very near future.—Smith, S., and Glaister, J., Jr.: Recent Advances in Forensic Medicine, Philadelphia, P. Blakiston's Son & Co., Inc., 1931.

ACUTE APPENDICITIS

A SURVEY OF ITS INCIDENCE AND CARE IN PHILADELPHIA

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PHILADELPHIA

In an endeavor to find the cause of the marked increase in the mortality of acute appendicitis, which amounted to 22.3 per cent in the United States and 18 per cent in Philadelphia between the years 1913 and 1923, Dr. A. A. Cairns, the director of the department of public health, authorized a survey of the hospitals of the city to determine the cause of this increase. The clinical records of 5,121 patients in 27 hospitals have been studied. To insure uniformity, the survey was made by one person with the assistance of another. An attempt was made to obtain the following from each clinical record: name, age, sex, time in hospital, family physician, surgeon, whether or not a laxative had been given before operation, time between onset of symptoms and operation, temperature and pulse, nausea and vomiting, recurrent attacks, leukocyte counts, kind of anesthesia, type of incision, pathologic changes, drainage, after-treatment, complications and remarks. It need hardly be mentioned that many records were incomplete. Only positive statements were taken. Points pertinent to the investigation were uniformly entered. A criticism of the records is not a part of this report. I hope, however, that the survey will be conducive to better record keeping. The information has been arranged in the order of its importance and should represent a true cross-section of the results of the disease in Philadelphia.

STATISTICS

There is a tendency by some to regard statistics as figures which may be manipulated to support or refute a contention, premise or theory. Regardless of this view the insurance business, one of the largest and most successful in the world, bases the cost and selling price of its commodity on statistics. Certain factors influencing deductions previously made might be considered at first thought variables, but they have been properly evaluated by a comparative study of two series of clinical records. The one series totaled 5,121; the other, 1,002 cases. The mortality in the first group was 5.97 per cent, in the latter, 8.7 per cent. As the average age in the first series was 24.6 years and in the second 26.2, it is reasonable to suppose that age had no bearing on the difference in the mortality rate in the two groups. A comparison of the time that elapsed between the onset of symptoms and the operation in the two series shows that the average for the first is 61.17 hours and for the second 81.17 hours, an increase of 20 hours. A comparison of the time that elapsed between the onset of symptoms and the operation of those who died shows that the average time in the first group was 95.6 hours, in the last 153 hours, an increase of 57.4 hours, or 60 per cent. The increase in mortality in the second group over the first was 45.5 per cent (8.7 per cent as compared with 5.97 per cent). In other words, the time that elapses between the onset of symptoms and the operation and the mortality rate are constant, as shown by the comparative percentages.

TABLE 1.—*Survey of Twenty-Seven Hospitals*

Hospital No.	No. of Cases	No. of Deaths	Mortality, per Cent	Hours Between Onset of Symptoms and Operation	Hours Between Onset of Symptoms and Recovery	Hours Between Onset of Symptoms and Death	Admitted Within 24 Hours: Recovered	Admitted Within 24 Hours: Died	Admitted Within 48 Hours: Recovered	Admitted Within 48 Hours: Died	Admitted Within 72 Hours: Recovered	Admitted Within 72 Hours: Died	Admitted After 72 Hours: Recovered	Admitted After 72 Hours: Died
1	61	1	1.64	44.64	44.28	72.0	20	0	27	0	8	1	5	0
2	181	4	2.20	58.3	56.9	121.5	60	0	65	0	23	2	29	2
3	79	2	2.50	66.5	65.0	120.0	34	0	18	0	8	0	17	2
4	220	6	2.73	68.8	67.2	127.0	79	0	63	4	20	1	52	1
5	30	1	3.30	45.0	45.6	28.0	16	0	8	1	2	0	3	0
6	60	2	3.45	59.88	56.57	156.0	21	0	20	0	6	0	11	2
7	165	6	3.61	52.5	51.6	76.0	63	0	54	3	16	0	26	3
8	388	15	3.90	44.3	44.1	49.4	135	3	136	7	57	1	45	4
9	302	13	4.30	62.2	61.0	87.2	92	0	95	6	32	3	70	4
10	297	14	4.70	58.7	55.7	119.6	115	3	83	1	25	1	60	9
11	60	3	5.00	53.47	52.49	72.0	13	0	27	2	7	0	10	1
12	138	7	5.07	88.5	90.6	49.3	28	1	50	4	15	1	38	1
13	379	20	5.28	85.5	85.1	91.7	100	3	125	9	37	1	97	7
14	322	17	5.30	46.5	45.2	70.3	106	4	122	5	44	3	33	5
15	89	5	5.61	61.91	61.05	76.4	24	0	35	1	11	3	14	1
16	17	1	5.88	55.29	48.25	168.0	5	0	7	0	3	0	1	1
17	282	17	6.02	66.2	65.6	75.7	82	3	80	6	39	5	64	3
18	345	25	7.25	67.2	64.7	99.6	106	3	104	8	47	4	63	10
19	330	24	7.27	79.8	77.2	114.1	77	1	86	9	50	4	93	10
20	69	5	7.30	38.61	40.19	38.4	31	1	23	4	4	0	6	0
21	638	53	8.30	48.7	45.4	78.1	208	14	222	12	96	12	59	15
22	189	16	8.50	53.2	50.3	84.4	56	1	63	6	31	2	23	7
23	23	2	8.7	54.48	54.52	54.0	5	0	8	1	5	1	3	0
24	179	16	8.94	65.8	46.0	267.4	84	2	38	3	16	3	25	8
25	137	15	10.94	48.30	44.95	76.5	55	0	38	7	13	3	16	5
26	18	2	11.11	58.78	48.38	144.0	4	0	8	1	3	0	1	1
27	123	14	11.29	79.42	80.17	73.5	24	3	43	4	10	3	32	4
Total	5,121	306	5.97	61.17	56.5	95.06	1,643	42	1,648	104	628	54	896	106
								2.55%		6.31%		8.59%		11.83%

MORTALITY

Merely to know of the chances of recovery when one happens to be afflicted with a disease is helpful. Most physicians as well as most laymen, when thinking of appendicitis, are optimistic. This is due in part to the fact that they both hear of individual and not of hospital mortality. The reason more is heard of individual mortality is that hospital statistics are not published frequently. It is human to report successes. The tendency is to be reticent about failures. In the twenty-seven hospitals surveyed, 364 surgeons were operating, an average of thirteen to a hospital. A certain number had no mortality. In one hospital the mortality rate was 11.2 per cent; several surgeons in this group had no mortality. One had a mortality of 20 per cent and another 3.3 per cent. The mortality

from appendicitis decreases with the experience of the surgeon. This is uniformly true in the management of the abnormally situated appendix and in that all important factor in the mortality of acute appendicitis, general peritonitis. There is no disorder of the human body in which surgical judgment influences the outcome so frequently or so markedly as in general peritonitis.

TABLE 2.—*Mortality from Peritonitis*

No. of Hospital	No. of Cases	No. of Clean Cases	No. of Peritonitis Cases	Perforations, per Cent	Local Peritonitis, per Cent	General Peritonitis, per Cent	Mortality, per Cent
1	61	40	21	34.4	86.1	13.9	1.64
2	181	113	68	37.5	83.8	16.2	2.20
3	79	34	45	57.0	91.1	8.9	2.50
4	220	146	74	33.6	64.8	35.2	2.73
5	30	21	9	30.0	55.5	44.5	3.30
6	60	34	26	43.33	84.62	15.38	3.45
7	165	135	30	18.18	33.33	66.66	3.61
8	388	304	84	21.6	76.2	23.8	3.90
9	302	156	146	48.8	86.3	13.7	4.30
10	297	183	114	38.4	67.0	33.0	4.70
11	60	44	16	26.66	75.0	25.0	5.00
12	138	79	59	42.7	56.0	44.0	5.07
13	379	227	152	40.1	71.7	28.3	5.28
14	322	160	162	50.3	52.4	47.6	5.30
15	89	56	33	37.07	72.73	27.27	5.61
16	17	11	6	35.3	66.66	33.33	5.88
17	282	156	126	44.7	73.0	27.0	6.02
18	345	179	166	45.2	68.0	32.0	7.25
19	330	173	157	47.5	61.0	39.0	7.27
20	69	52	17	24.64	53.0	47.0	7.30
21	638	223	415	65.0	65.5	34.5	8.30
22	189	104	85	45.0	52.9	47.1	8.50
23	23	14	9	39.13	77.77	22.23	8.70
24	179	105	74	41.3	63.5	36.5	8.94
25	137	92	45	32.85	68.89	31.11	10.94
26	18	6	12	66.66	75.0	25.0	11.11
27	123	74	49	40.0	53.06	46.94	11.29
Total	5,121	2,921	2,200	42.73	68.26	31.74	5.97

Hospital mortality as considered in this report is a misnomer because the greater part of the mortality is due to factors that have originated outside the hospital. This communication will consider these factors only. After the patient enters the hospital, the greatest factor influencing mortality is the management of general peritonitis, which is a subject for discussion by surgeons. This problem of the surgeon is a minor one when compared with the prehospital or prophylactic treatment of peritonitis and can be conservatively placed at a 10 to 90 ratio from the standpoint of influencing the mortality rate. The pertinent point is that the prehospital factors as represented by 90 are controllable. They can be eliminated and, if they were, general peritonitis, the cause of hospital mortality, would be reduced to a minimum and the figure 10 replaced by a 1 or 2 representing catastrophes, which will always play a part in surgical mortality.

PATHOLOGY AND MORTALITY

In the early eighties, when appendicitis was first recognized as a distinct pathologic entity, the majority of patients were operated on only when they had an associated peritonitis. Almost fifty years has elapsed. In a city reputed to be the leading medical center of the United States it is found that 44.7 per cent of the patients who enter its hospitals with appendicitis have a peritonitis and that one out of every eighteen dies. The department of health has demonstrated what can be done with prophylactic medicine. Typhoid has been controlled and diphtheria is being eradicated. It is time that a campaign of prophylactic surgery be instituted. The family physician should be the prophylactic surgeon. In addition to his being able to diagnose and advise, he can also caution his patients against delay in seeking medical advice and against the indiscriminate use of laxatives.

Conditions arising in organs not caused by the pathologic process in the appendix are responsible for about 0.45 per cent of deaths; anesthesias, 0.006 per cent; cardiac failures, 0.01 per cent; hemorrhages, 0.006 per cent; local peritonitis was the cause of 19.5 per cent of deaths and general peritonitis of 80.5 per cent.

TABLE 3.—*Laxatives and Peritonitis*

No. of Hospital	No. of Cases	No. of Deaths	No. of Deaths, Laxatives Given	No. of Deaths, Laxatives Not Given	No. of Deaths, No History of Laxatives	Deaths, Laxatives Given, per Cent	Deaths Due to: Peritonitis		General Peritonitis		Local Peritonitis		Other Causes	
							Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	61	1	1	0	0	100.0	1	100.0	1	100.0	0	0.0	0	0.0
2	181	4	2	1	1	66.7	3	100.0	1	33.3	2	66.7	0	0.0
3	79	2	1	0	1	100.0	1	100.0	0	0.0	1	100.0	0	0.0
4	220	6	2	0	4	100.0	2	100.0	1	50.0	1	50.0	0	0.0
5	30	1	0	0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	60	2	2	0	0	100.0	2	100.0	2	100.0	0	0.0	0	0.0
7	165	6	1	0	5	100.0	1	100.0	1	100.0	0	0.0	0	0.0
8	388	15	5	1	9	83.3	5	83.3	5	100.0	0	0.0	1	16.7
9	302	13	7	3	3	70.0	8	80.0	5	62.5	3	37.5	2	20.0
10	297	14	4	1	9	80.0	5	100.0	4	80.0	1	20.0	0	0.0
11	60	3	2	0	1	100.0	2	100.0	2	100.0	0	0.0	0	0.0
12	138	7	4	0	3	100.0	4	100.0	4	100.0	0	0.0	0	0.0
13	379	20	9	1	10	90.0	10	100.0	7	70.0	3	30.0	0	0.0
14	322	17	12	0	5	100.0	12	100.0	10	83.3	2	16.7	0	0.0
15	89	5	1	0	4	100.0	1	100.0	1	100.0	0	0.0	0	0.0
16	17	1	0	0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	282	17	10	0	7	100.0	8	80.0	5	62.5	3	37.5	2	20.0
18	345	25	6	0	19	100.0	6	100.0	5	83.3	1	16.7	0	0.0
19	330	24	18	3	3	86.0	21	100.0	16	76.2	5	23.8	0	0.0
20	69	5	1	0	4	100.0	1	100.0	0	0.0	1	100.0	0	0.0
21	638	53	34	0	19	100.0	34	100.0	28	82.3	6	17.7	0	0.0
22	189	16	9	0	7	100.0	9	100.0	9	100.0	0	0.0	0	0.0
23	23	2	0	0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	179	16	6	2	8	75.0	7	87.0	6	86.0	1	14.0	1	13.0
25	137	15	5	0	10	100.0	5	100.0	5	100.0	0	0.0	0	0.0
26	18	2	0	0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0
27	123	14	5	1	8	83.3	6	100.0	6	100.0	0	0.0	0	0.0
Total	5,121	306	147	13	146	91.8	154	96.35	124	80.5	30	19.5	6	3.65

The percentage of perforations admitted to a hospital is in keeping with the mortality of that hospital (table 2). The greatest percentage of perforations, 66⅔, was associated with a mortality of 11.1 per cent. On the other hand, if one analyzes the hospitals that had the lowest mortality, it will be found that the number of perforations resulting in a general peritonitis is correspondingly low.

INFLUENCE OF DELAY ON MORTALITY

There is a common belief that there is no mortality in appendicitis if operations are performed early, but this survey shows that 1 patient in every 39 dies even if operation is performed within twenty-four hours; if within forty-eight hours, 1 in 17 dies; seventy-two hours, 1 in 13; over seventy-two hours, 1 in 9. The average time that elapsed between the onset of symptoms and the operation of those who lived of the 5,121 patients was 60.1 hours; of those who died, 97.7 hours. A patient in good physical condition in 99 instances out of 100 is safe if operated on within the first twelve hours. In this series, gangrene of the appendix, with general peritonitis, had taken place as early as six hours from the onset of pain. Without exception, patients developing perforation with fulminating peritonitis before twelve hours have been given laxatives. In addition to the increase in mortality because of the associated peritonitis, the development of a local peritonitis increases the mortality rate. Patients in whom the inflammation of the appendix subsides, to recur later, have a higher mortality rate than those who are operated on early in an initial attack; this is due to patients postponing operation because of the previous recovery or the physician's advising delay, being misled

TABLE 4.—*Relation of Deaths to Total Number of Cases According to Months*

	Deaths	Totals	Per Cent
January	22	403	5.45
February	15	395	3.8
March	35	425	8.2
April	29	404	7.2
May	30	416	7.2
June	19	434	4.4
July	31	480	6.5
August	34	520	6.5
September	28	429	6.5
October	22	442	5.0
November	26	403	6.5
December	15	370	4.0
Total	306	5,121	5.97

by the mildness of symptoms and signs due to adhesions or other pathologic conditions, incident to previous attacks. In an appreciable percentage of patients who were admitted to hospitals with general peritonitis, Ochsner treatment was instituted. The results of this treatment have not been analyzed and the effect of such delay on the mortality rate cannot be definitely stated. It is well known that delay in young persons and pregnant women is associated with an exceedingly high mortality. Delay is a factor in morbidity also; fecal fistulas, hernias, intestinal obstructions, draining sinuses and adhesions are among the most important.

LAXATIVES AND MORTALITY

Of the 5,121 patients, 306 died. The cause of death in 224, or 73.2 per cent, was general peritonitis. Of the 306 deaths there were only 160 patients in whom a history regarding laxatives was obtained; 131 of the 160 had a general peritonitis; 124, or 98.4 per cent, of the 131 had had a laxative. It would be presuming too much to say that laxatives caused the death of all these patients, but delay and laxatives were the cause of the majority of them. Localization of the infection either in the appendix or directly outside, resulting in a local peritonitis, takes place when the intestines are quiet—increased peristalsis, increased intra-appendical tension, perforation, general peritonitis, overwhelming intoxication and death follow the administration of laxatives. These records show that if a patient who has a fulminating appendicitis is given a laxative and develops a general peritonitis, he has but one chance in seven of recovering.

ECONOMIC ASPECT

Of the 5,121 patients operated on for appendicitis, 2,663 had appendicitis without peritonitis. The average time these patients spent in the hospital was 13.04 days. There were 2,458 patients who had appendicitis and peritonitis. The average time these patients spent in the hospital was 23.4 days.

TABLE 5.—*Summary of Analysis at Two Different Hospitals*

	Hospital 1 1926	Hospital 2 1929
Number of cases analyzed	750	252
Mortality rate	8%	10.7%
Average time of symptoms and operation:		
Lived	69.1 hours	90.4 hours
Died	151 hours	157.7 hours
Percentage of perforations	45	46.8
Percentage of perforations, laxative given	92.3	87.6
Percentage of deaths, general peritonitis	73	77.8

The clean cases spent 34,726 days, the unclean 57,049 days in the hospital, a difference of 22,324 days. It cost the average hospital $3 a day for each patient; this represents a loss of $66,972. This does not include the loss of wages and diminished longevity on account of the liability to complications due to drainage of the peritoneal cavity. If one considers the loss of lives—the avoidable deaths due to general peritonitis—from a monetary standpoint, one finds that of the 306 cases, 73.2 per cent, or 224, died of general peritonitis; of these 98.4 per cent had taken laxatives. Life insurance companies estimate each life as being worth about $5,000; therefore, these cases cost the city approximately $1,060,000.

A PLAN FOR THE REDUCTION OF MORTALITY IN ACUTE APPENDICITIS

The public should be informed of the dangers of delay in seeking medical advice and of the danger of using laxatives in the presence of abdominal pain.

There were 300,000 stickers supplied by the Philadelphia County Medical Society and sent to 3,813 physicians with two editions of "Healthfax." The interest shown by many physicians was manifested in requests for an additional supply. The stickers read as follows: "In the presence of abdominal pain give nothing by mouth. Never give a laxative. Apply an ice bag to the abdomen. Call your family physician. Abdominal pain which persists for six hours is usually dangerous."

TABLE 6.—*Results in Hospital 1*

	Before Letter	After Letter	Reduction, per Cent
Average time between onset of symptoms and operation	75.6	56.8	24.8
Percentage of perforations	45	24	46.6
Mortality	5.41%	3.12%	42.3%

There were 2,000 placards supplied by the Philadelphia Association of Retail Druggists and sent to drug stores throughout the city, with the request that they be displayed in a conspicuous place in the store. On each placard was printed the following:

"APPENDICITIS. Severe pains in the stomach are often dangerous. Do not take purgatives. Call a physician. Deaths from appenditis are increasing annually.

"The Director of Public Health requests the following:

"A. That each purchaser of castor oil, citrate of magnesia, epsom salt, rochelle salt or other laxatives be questioned if the drug is to be given in the presence of abdominal pain.

"B. That you do not resort to laxatives in the presence of abdominal pain until you have consulted a physician.

"C. That we explain that laxatives increase the movements of the intestines, thus preventing nature's confining the inflammation to the appendix. Therefore, laxatives frequently produce perforations, peritonitis and death."

TABLE 7.—*Textbook Analysis and Operative Observations*

		Operative Observations		
	Textbooks	No Peritonitis	Local Peritonitis	General Peritonitis
	.....	33.7%	54.0%	12.3%
Pain	93.7%	100.0%	100.0%	100.0%
Nausea	62.5%	35.2%	44.8%	42.3%
Vomiting	87.5%	50.0%	60.2%	80.9%
Local tenderness	100.0%	89.3%	89.8%	89.7%
Plus tension		43.3%	39.8%	26.9%
		83.9%	84.7%	92.4%
Rigidity	100.0%	40.6%	44.9%	65.5%
Constipation	68.7%			
Increased temperature	87.5%	68.9%	76.9%	84.4%
Increased pulse	56.2%	44.1%	63.0%	84.4%
Leukocytosis	75.0%	79.7%	84.8%	95.0%

The surgical staff of hospitals should be requested to study carefully the mortality of appendicitis as compared with appendicitis associated with peritonitis and to adopt measures to combat the uniformly high death rate of the latter.

The deans of the schools of pharmacy of the city have been requested to give a special lecture on the dangers of laxatives in acute abdominal conditions.

Radio health talks have been given and will be given, and articles containing warnings and advice to the public will be published in newspapers and magazines.

In the summary of analysis at two different hospitals (table 5), the percentage mortality and time that elapsed between the onset of symptoms and the operation in those who lived should be noted; also the close approximation of elapsed time of those who died, the constancy of perforation, the percentage given laxatives, and deaths due to general peritonitis in both groups.

A semiannual or annual report of results obtained should be sent to the deans of the medical schools, deans of pharmacy schools, members of surgical staffs and outside physicians. The following outline shows how the cooperation of the staff physicians referring cases to the hospital may be obtained:

Analyses of the clinical records of patients operated on for appendicitis are to be reported at a staff meeting.

Letters will be sent to members of the staff and to outside physicians referring patients to the hospital. These letters will contain the results of analysis as in table 5, a request for cooperation, the stickers as already described, the percentage given laxatives, the average time between onset of symptoms and operation, the percentage of perforations, and the mortality.

A check-up of clinical records will be made every six months; a follow-up letter will be sent noting progress and soliciting further cooperation.

A letter shows the actual results in hospital 1 (table 6).

Students, interns and physicians in general practice should be taught to diagnose appendicitis early, to differentiate between appendicitis and appendicitis with peritonitis, to appreciate the importance of the increase in mortality with the increase in time between the onset of symptoms and the operation, and finally to aid in educating the public. Table 7 shows the results of an analysis of the symptoms and signs of appendicitis in sixteen standard textbooks of surgery as compared with an analysis of 231 clinical records of patients operated on for simple appendicitis and appendicitis with local and general peritonitis.

The textbook analysis of appendicitis closely approximates that of appendicitis with general peritonitis.

TABLE 8.—*Deaths in Decades According to Sex*

Hospital No.	No. of Cases	1–10		11–20		21–30		31–40		41–50		51–60		61–70		71–80	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	1	0	0	0	1	..	..	..	..	..	..	..	..	..	..	..	..
2	4	0	1	1	0	1	0	0	0	0	0	0	0	1	0	..	..
3	2	0	0	0	0	0	0	1	0	1	0	..	..	..	..	..	..
4	6	0	0	3	0	2	0	0	0	1	0	..	..	..	..	..	..
5	1	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..
6	2	0	0	1	0	..	..	..	..	..	..	..	..	1	0	..	..
7	6	2	2	0	1	0	0	0	1	..	..	..	..	..	..	..	..
8	15	1	2	1	1	4	2	2	0	0	1	0	0	1	0	..	..
9	13	1	1	1	4	0	0	3	1	0	0	1	1	0	0	..	..
10	14	2	0	2	2	0	0	2	0	1	..	3	1	1	0	..	..
11	3	0	0	0	0	0	1	1	1	..	..	..	..	..	..	..	..
12	7	0	0	1	1	1	1	0	0	2	0	0	1	..	..	..	..
13	20	1	1	2	2	3	1	2	1	1	1	1	1	1	2	..	..
14	17	2	2	2	1	1	1	0	1	2	0	0	2	2	1	..	..
15	5	0	0	0	0	0	1	1	1	1	0	..	..	1	0	..	..
16	1	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..
17	17	1	1	2	0	2	0	3	3	3	0	1	0	1	0	..	..
18	25	1	0	1	4	2	2	3	1	5	1	2	1	0	2	..	..
19	24	0	0	0	1	4	0	4	0	6	0	6	2	0	0	0	1
20	5	3	1	0	0	0	0	0	1	..	..	..	..	0	0	..	..
21	53	1	4	10	4	6	2	8	4	4	2	4	2	0	2	..	..
22	16	6	0	4	0	2	1	0	1	2	0	0	0	0	0	..	..
23	2	0	2	0	..	0	..	..	0	..	..	..	..	..	..	..	..
24	16	1	1	0	1	3	0	0	4	2	0	1	1	1	0	1	0
25	15	1	0	2	4	2	1	0	1	1	3	..	..	..	0	..	..
26	2	0	0	0	0	0	0	1	0	0	0	1	0	..	0	..	..
27	14	0	1	1	0	2	0	2	3	0	1	1	1	1	1	..	..
Totals	306	23	19	34	27	35	13	34	24	32	10	21	13	11	8	1	1
Total cases	5,121	347	274	982	821	872	541	464	233	206	117	100	81	49	30	3	1
Per cent	5.97	6.6	6.9	3.5	3.3	4.0	2.4	7.3	10.0	15.5	8.5	21.0	16.0	22.5	26.7	33.3	100.0

From the foregoing the following may be deduced as to the diagnosis of appendicitis:

Only one symptom is always present—pain.

Only one sign is uniformly present—tenderness (absent in 11 per cent).

There is only one corroborative test—the leukocyte count (absent in 20 per cent).

Table 8 shows the number of male and female cases in decades, with the percentage of mortality. Of the 5,121 cases reported, 347 boys and 274 girls between the ages of 1 and 10, a total of 621, or 12.1 per cent, were affected; between the ages of 11 and 20, 982 boys and 821 girls, a total of 1,803 cases, or 35.2 per cent; between the ages of 21 and 30, 872 men and 541

women, a total of 1,413, or 27.5 per cent; between the ages of 31 and 40, 464 men and 233 women, a total of 697, or 13.6 per cent; between the ages of 41 and 50, 206 men and 117 women, a total of 323, or 6.4 per cent; between the ages of 51 and 60, 100 men and 81 women, a total of 181, or 3.5 per cent; between the ages of 61 and 70, 49 men and 30 women, a total of 79, or 1.5 per cent; between the ages of 71 and 80, 3 men and 1 woman, a total of 4, or 0.08 per cent.

The greatest number of cases of appendicitis occurs between the years of 11 and 20, when the percentage of mortality is next to the lowest of the whole group. The smallest number occurs between 61 and 70. In every decade the males outnumber the females considerably, but they seem to have more resistance to the disease.

2008 Walnut Street.

TYPE I LOBAR PNEUMONIA TREATED WITH CONCENTRATED PNEUMOCOCCIC ANTIBODY (FELTON)

THE CLINICAL COURSE *

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A primary consideration in evaluating a specific therapeutic agent for the treatment of lobar pneumonia is the determination of its effectiveness in saving life. A large amount of data has been accumulated by investigators who sought to determine the effect of Felton's concentrated pneumococcic antibody on the mortality from the disease. Table 1, which contains the fatality rates from type I lobar pneumonia obtained in controlled clinical therapeutic trials in New York and Boston, shows that this antibody has a consistently beneficial effect. It is noteworthy that, as with other immune specific measures, the best results are obtained following treatment early in the disease.

Since the individual physician often bases his use of a therapeutic measure on his own experience and that of his friends, the statistical method, as it is used in large hospitals, is for him of little value. This is particularly true in a disease such as type I lobar pneumonia, of which but relatively few cases are seen by him during the course of the year. The effect of therapy on the clinical course of the disease is the practitioner's best available method for gaging the value of a method of treatment. Thus, the nature and degree of the symptomatic effects of a specific antiserum are of great importance and, while they are mentioned by the observers quoted in table 1, it seemed worth while to treat a properly controlled group of patients with type I lobar pneumonia with specific antibody, particular stress being laid on the clinical effects of treatment.

At the Boston City Hospital [1] during the period from Nov. 15, 1929, to June 30, 1930, essentially all patients having, or suspected of having, lobar pneumonia were examined clinically and bacteriologically. Whenever a determination of type I pneumococcus was made, that case was entered as one of the series to be studied. Each alternate patient in this series received Felton's concentrated pneumococcic antibody. Twenty-eight of a group of fifty-nine patients with type I lobar pneumonia were thus given concentrated antibody administered according to a plan calculated to secure the maximum clinical effect, and all fifty-nine patients were carefully observed with the question of symptomatic improvement in mind.

METHODS

In the great majority of instances the type of pneumococcus was ascertained within six hours of the time sputum was first obtained. The Sabin [2] stained slide agglutination reaction with peritoneal exudate withdrawn by capillary pipet from the live mouse was used for the rapid determination of the pneumococcus type. In addition, sputum from each patient was examined one or more times by the usual eighteen hour mouse method. Blood cultures were made as a routine on admission and at intervals throughout the febrile course of the disease. When sputum was difficult to obtain, a sterile cotton throat swab was passed over the patient's posterior pharyngeal wall and washed off in 2 or 3 cc. of sterile broth medium, which was, in turn, treated as if it were sputum. The direct precipitation test, the clear urine being used against the usual typing serums, also gave a rapid result in a number of instances.[3]

Concentrated bivalent antibody, potent in mouse protection tests against pneumococcus types I and II, was used for treatment. Part of the serum was concentrated by Dr. L. D. Felton [4] in the laboratories of the Department of Preventive Medicine and Hygiene of the Harvard University Medical School.[5] The larger part of the serum was concentrated in the Anti-

TABLE 1.—*Mortality of Type I Lobar Pneumonia Treated With Concentrated Antibody (Felton) Compared With the Mortality of Simultaneous Control Series Without Specific Therapy*

	Specifically Treated			Not Specifically Treated		
	No. of Cases	Deaths No.	Deaths %	No. of Cases	Deaths No.	Deaths %
Cecil and Plummer: J. A. M. A. **95**: 1547 (Nov. 22) 1930	239	48	20.1	234	73	31.2
Cases of less than three days' duration	103	12	11.7	97	26	26.8
Park, Bullowa and Rosenbluth: J. A. M. A. **91**: 1503 (Nov. 17) 1928	58	13	22.0	54	19	35.0
Cases of less than three days' duration	29	6	21.0	28	10	36.0
Finland: New England J. Med. **202**: 1244 (June 26) 1930	80	17	21.3	70	22	31.4
Cases of less than three days' duration	42	4	9.5	16	6	37.5

toxin and Vaccine Laboratory of the Massachusetts Department of Public Health [6] by Felton's method, and a few preparations were made in the same laboratory by Goodner's [7] method. The potency of the concentrates, as measured by the method of Felton,[8] ranged

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* From the Thorndike Memorial Laboratory, Second and Fourth medical services (Harvard) of the Boston City Hospital and the Department of Medicine of the Harvard University Medical School.

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1. The staffs of the four medical services cooperated heartily in conducting the general care of the patients here reported.

2. Sabin, A. B.: The "Stained Slide" Microscopic Agglutination Test: Application to (1) Rapid Typing of Pneumococci; (2) Determination of Antibody, Proc. Soc. Exper. Biol. & Med. **26**: 492-494 (March) 1929.

3. Monovalent antipneumococcic serum for diagnostic purposes was supplied by Dr. W. H. Park.

4. Felton, L. D.: Concentration of Pneumococcus Antibody, J. Infect. Dis. **43**: 543-553 (Dec.) 1928.

5. Supplied through the courtesy of Dr. M. J. Rosenau and the Influenza Commission of the Metropolitan Life Insurance Company, which also rendered additional financial assistance.

6. Supplied through the courtesy of Dr. Benjamin White.

7. Goodner, Kenneth: Experiments on the Concentration of Antipneumococcic and Antimeningococcic Horse Sera, J. Immunol. **19**: 473-484 (Nov.) 1930.

8. Felton, L. D.: The Concentration of Antipneumococcus Serum, J. A. M. R. **94**: 1893-1896 (June 14) 1930.

from 2,000 units to 6,000 units per cubic centimeter against type I, and from 2,000 to 3,000 units per cubic centimeter against type II.

The effective dosage of Felton's concentrated antibody has been stated by various authors. Cecil and Sutliff [9] recommend 100,000 units during the first twenty-four hours of treatment. Park [10] recommends from 50,000 to 100,000 units during the first twenty-four hours of treatment. With this as a foundation, a procedure was used that gave promise of securing the maximum clinical effect. Since it has been commonly observed that treatment with specific serums in general and with antipneumococcic serum in particular is more effective early in the course of the infection in man, it was thought that the quantitative relationships observed by Goodner [11] in the treatment of pneumococcic skin infection in the rabbit might be applicable to the treatment of human lobar pneumonia.

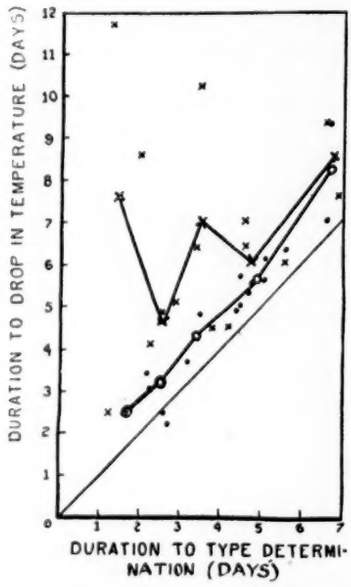

Chart 1.—The duration of type I lobar pneumonia as measured by the number of days before the occurrence of a marked and sustained drop in temperature to or nearly to normal. This and the following charts show on the left the duration of the disease in days and along the base line the number of days after the onset of the disease until the pneumococcus type was determined. The curves join points which represent the average of the duration of the acute disease in patients grouped according to the interval from the onset until the pneumococcus type was determined. The diagonal line beginning at O divides the portion of the disease before the determination of the pneumococcus type (below the line) from the portion of the disease after the determination of the pneumococcus type (above the line). Specific therapy was instituted in half the patients at the time represented by this line. Each dot represents a patient treated specifically and each cross a patient not given specific therapy.

In the cases here reported the total amount of serum administered was made dependent on the stage of the disease at which treatment was begun. The smallest amount was given to patients treated within twenty-four hours after the onset of the disease, and multiples of this amount were used in patients first treated on the succeeding days. The guide for dosage that was followed is given in table 2. In order to secure the full benefit of early administration, it seemed desirable to give all the antibody necessary in as short a time as was consistent with care and safety. Hence, the individual doses were administered at intervals of two hours. In other words, the administration of antibody was featured by the use of total dosages, as large as or larger than those of others, given as early and completed as soon as possible, and graded according to the duration of the disease before the time of treatment.

EFFECTS OF TREATMENT ON THE DISEASE

When one relies on clinical changes in a patient to judge of the effects of therapy, experience teaches the necessity for something more objective than the undocumented opinion of the physician. It is important to adopt certain facts as the indicators of improvement. Those that have seemed at once the most reliable and the most significant in cases of lobar pneumonia are: (1) the duration of the disease; (2) the course of the bacteremia, and (3) the presence or absence of pulmonary extensions of the infection.

Duration.—A comparison of the duration of the disease in specifically treated patients with the duration of the disease in patients not receiving any specific therapy should show most clearly whether or not a therapeutic measure produces immediate symptomatic improvement. This comparison can be expressed in a variety of ways. Since the temperature curve has the merit of objectivity, temperature changes alone are used to indicate the duration of the disease in charts 1 and 2. Symptoms, however, are not subject to exact measurement and may be variously estimated by different observers.

TABLE 2.—*Scheme of Dosage Used in the Treatment of Type I Lobar Pneumonia*

Duration of Disease	Cubic Centimeters of Concentrated Antibody: Individual Doses	Cubic Centimeters of Concentrated Antibody: Total	Total Mouse Protective Units in Average Preparation
1 to 24 hours	5-25	30	90,000
24 to 48 hours	5-25-45	75	225,000
48 to 72 hours	5-25-45-45	120	360,000
72 hours and more	5-25-45-45-45	165	495,000

In the present study, the daily notes of the pneumonia service were compared with those of the staffs of the medical services, and a composite and dependable picture was obtained. Because certain symptoms, such as pleural pain, prostration and delirium, may persist following a critical fall in temperature, symptomatic changes alone are used to indicate the duration of the disease in chart 3. In chart 4, the disappearance of fever and all symptoms is used to fix the duration of the disease.

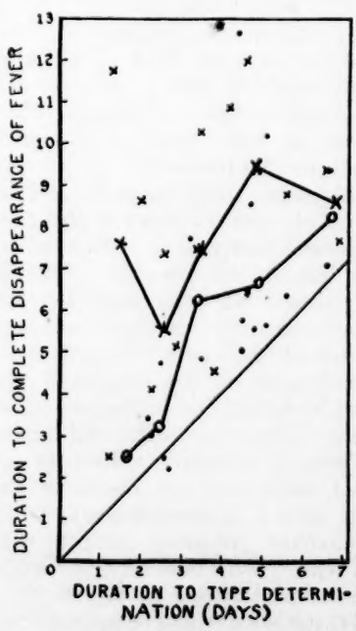

Chart 2.—The duration of type I lobar pneumonia as measured by the number of days required for complete disappearance of fever.

A general impression of the effect of specific treatment on the course of type I lobar pneumonia may be gained by observing the distribution on the charts of the points which represent individual cases. It is apparent from chart 1 that the specifically treated cases, represented by dots, showed improvement at a fairly regular and comparatively short interval after the pneumococcus type was determined and specific treatment was begun. It is also clear that in the cases in which concentrated antibody was not given, represented by crosses, improvement set in at irregular and usually much longer intervals after the determination of the

9. Cecil, R. L., and Sutliff, W. D.: The Treatment of Lobar Pneumonia with Concentrated Antipneumococcus Serum, J. A. M. A. **91**: 2035-2042 (Dec. 29) 1928.
10. Park, W. H.: Personal communication to the authors.
11. Goodner, Kenneth: Further Experiments with the Intradermal Pneumococcus Infection in Rabbits, J. Exper. Med. **48**: 413-429 (Sept.) 1928.

pneumococcus type. Specifically, seventeen of eighteen treated patients showed a marked fall in temperature within thirty hours after the type of pneumococcus was determined and treatment was begun. Only one of the treated patients had a high fever for a longer period than the average untreated patient. While five of the untreated patients had a sharp drop in temperature within thirty hours after the type was determined and four showed the same change before the average treated patient, the remaining ten are scattered quite widely on the chart. The curves in chart 1, showing the average duration before the occurrence of a sustained drop in temperature, indicate perhaps even more clearly the difference in the duration of the disease in treated and in untreated patients. The patients that received concentrated antibody early in the disease had a fall in temperature to nearly normal, on the average, from 20 to 24 hours after they were typed and treated, while the untreated patients showed, on the average, a similar temperature drop from 48 to 144 hours after the determination of the pneumococcus type.

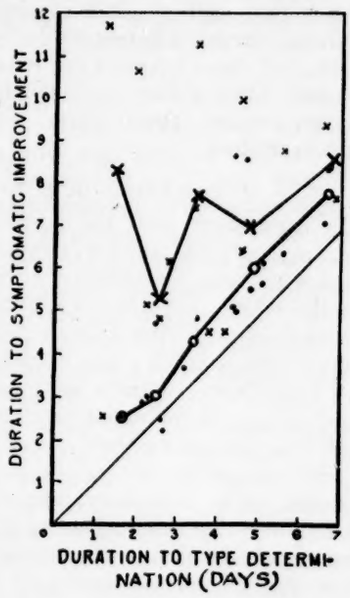

Chart 3.—The duration of type I lobar pneumonia as measured by the number of days of illness until a marked and sustained symptomatic change occurred.

In cases that came under observation after the fourth day from onset of the disease there was no great difference in the average course of the disease between treated and untreated patients.

A continuing low grade fever after a sharp drop in temperature occurred with equal frequency among the specifically treated and control patients. The number of days required for the complete disappearance of fever is given in chart 2. Fourteen of eighteen treated patients became afebrile before the average untreated patient, while only three of the fifteen untreated patients became afebrile before the average treated patient. The treated patients became afebrile, on the average, two days before the untreated patients if treatment was begun any day up to and including the fifth day of the disease.

Symptoms of the acute disease, such as cyanosis, dyspnea, pain in the chest and delirium, disappeared, and marked improvement was manifest, as is shown in chart 3 at approximately the time of a sustained fall in temperature. Thus, chart 3 is similar to chart 1 and does not need to be described separately. The regular and early symptomatic improvement following the administration of concentrated antibody before the fifth day of the disease and the irregular and delayed symptomatic improvement in corresponding cases not specifically treated are clear.

An inclusive definition of the end of the acute stage of lobar pneumonia and the beginning of convalescence includes a consideration both of temperature and of acute symptoms of the disease.

Although in the previous charts temperature is treated separately because it is an objective measurement, in chart 4 it is considered together with the symptoms, and the acute disease is taken to persist until all elevations of temperature as well as acute symptoms have disappeared. It is seen that eleven of the eighteen specifically treated patients were well within thirty hours after the pneumococcus type determination, which represents approximately the beginning of treatment. It is likewise apparent that twelve of the eighteen specifically treated patients were well before the average untreated patient. On the other hand, only four of the fifteen untreated patients were well within the first thirty hours after the pneumococcus type determination, and only five of the untreated were well before the average treated patient, three of the latter being patients first observed on the sixth and seventh days of the disease. As in the previous charts, the beneficial effect of antibody treatment is seen only in patients treated early; in this case, those treated on or before the fifth day of the disease.

TABLE 3.—*Incidence and Course of Bacteremia Among Serum Treated Type I Lobar Pneumonia Patients Compared to That Among Untreated Patients*

	Treated	Untreated
Number of bacteremic patients	7	10*
Patients with blood culture first positive, later negative	6	2
Patients with several blood cultures positive	0	4
Patients with blood culture first negative, later positive	0	4*

* One positive only from heart's blood at autopsy.

Summarizing the effect of concentrated antibody treatment on the duration of type I lobar pneumonia, it may be said that definite improvement was quite regularly present in this group of treated patients within thirty hours after antibody administration and that such patients showed a shorter average duration of their illness than did the untreated patients. The difference in favor of the treated patients was greatest in those treated earliest in the disease and decreased progressively as treatment was delayed.

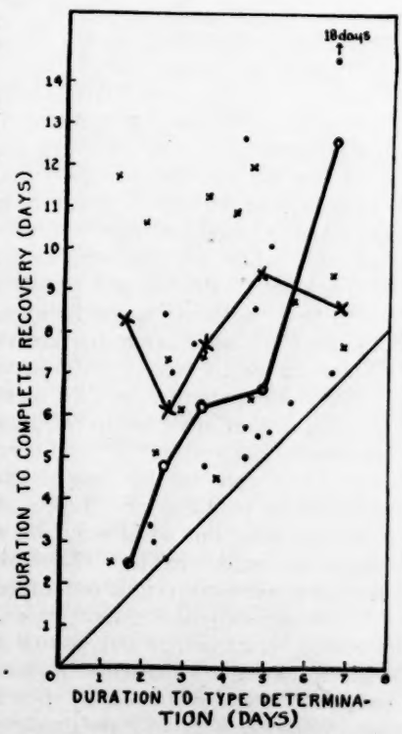

Chart 4.—The duration of type I lobar pneumonia as measured by the number of days required for complete disappearance of fever and symptoms.

Bacteremia.—The result of blood culture has been thought throughout the study of lobar pneumonia to be of considerable prognostic significance. The presence of bacteremia early in the course of the disease is considered an indication of a severe infection. The pres-

ence of a bacteremia on the fourth day or later in the course of the disease is an unfavorable prognostic sign. Seven of the treated patients had a bacteremia when they were first seen (table 3). The effect of specific treatment on the bacteremia was striking. All six of the patients who had more than one blood culture taken had negative cultures after serum treatment. These may be compared with the six untreated patients whose first blood cultures were positive. Only two of these untreated patients subsequently had negative blood cultures. Also the development of positive blood cultures was apparently hindered by the administration of antibody. In no instance did a treated patient with an originally negative blood culture develop a positive culture, whereas four of ten untreated patients whose first blood cultures were negative later had positive cultures (one was found positive on culture of heart's blood at autopsy).

Pulmonary Extensions.—The extension of the inflammatory process to a new area in the lungs is a clinical condition that is characteristic of a pneumonic process that is progressing unfavorably. All cases were carefully followed with this point in mind. The clinical signs of extension, such as continued bloody sputum and prolongation of the course of the disease or relapse, aided in making this diagnosis. No cases were considered as showing extension, however, unless the new area of consolidation was clearly demonstrated by physical signs and by roentgen examination. Among the treated patients no extensions were detected subsequent to the administration of specific therapy. Among the untreated patients, extensions occurred in four otherwise uncomplicated cases.

Summarizing the objective evidence of the effect of the administration of concentrated antibody on type I lobar pneumonia, it may be stated that (1) the duration of the disease was shortened on the average from one to two days in patients treated on or before the fourth day; (2) the blood culture became negative after serum treatment, while no patients developed positive blood cultures after treatment, and (3) extension of the infection to new portions of the lungs occurred among the untreated but not among the treated patients.

The total death rate in the untreated series (ten out of thirty-one patients, or 32.2 per cent) corresponds very well to that observed in much larger series of lobar pneumonia cases (table 1). There is only a slightly lower death rate in the treated group (seven out of twenty-eight patients, or 25 per cent). The number of deaths (one out of seven) among the treated bacteremic patients was less than among the untreated bacteremic patients (eight out of ten).

A comparison of the fatal cases in the treated and untreated series brings out points that are of interest:

First, among the patients of the treated group who died, the culture of the sputum was not confirmed in two instances, a type I pneumococcus being obtained only once out of several examinations. Pneumonia was present in both patients clinically. No autopsy was obtained in these cases. All fatal cases in the untreated group had confirmatory type determinations.

Second, among the fatal cases in the treated group there was only one case in which the blood culture was positive, either before or after serum, whereas in the untreated group every fatal case had a positive blood culture.

Third, in the treated group autopsy examinations showed an organism other than the pneumococcus in the lung in two instances. In one, the lung showed a pneumonia with abscesses, but cultures yielded a pure growth of staphylococci with no trace of the type I pneumococcus which had been found in the sputum two weeks earlier. In the other patient, pneumococcus type I was found in the lung associated with a hemolytic streptococcus. Three autopsy examinations in fatal untreated cases showed that the patients died of typical lobar pneumonia, and pneumococcus type I was recovered in pure culture from the lungs of each.

These three differences indicate an unfortunate division of cases between the treated and the untreated groups. Such differences demonstrate the inaccuracy of comparative fatality rates when a small series of cases is studied.

REACTIONS DUE TO SERUM

In connection with the administration of antibody and, in fact, the intravenous administration of any foreign protein, reactions of various kinds may occur. On the whole, pneumococcic antibody concentrated by the method of Felton seldom produces untoward reactions. The possible types of reaction may be listed as (1) immediate reactions with urticarial and asthmatic symptoms; (2) thermal reactions, and (3) serum sickness.

The immediate or allergic type of reaction is the greatest source of anxiety, because of occasional reports of fatalities that have followed immediately after serum was given. In this series of cases no asthmatic symptoms were encountered and only two patients developed mild urticaria shortly after the administration of antibody. The precautions that were used to determine hypersensitiveness included a careful questioning for symptoms of allergy in the patient and his relatives, and for a history of previous serum therapy, the skin test and the ophthalmic test. The skin test was performed by intradermal injection of 0.1 cc. of a 1:10 dilution of normal horse serum in 0.9 per cent saline solution. The ophthalmic test consisted of instilling 1 or 2 drops of a 1:10 dilution of normal horse serum or the therapeutic serum into the conjunctival sac of the patient. The therapeutic serum itself gives positive skin reactions fairly regularly in normal persons and so is unsuited for the diagnosis of skin sensitivity. The eye test has shown no bad local or general effects, such as have been reported with the ocular tuberculin reaction. If the history was positive for previous serum therapy or for any manifestation of sensitivity other than susceptibility to horse protein, or if the skin test was positive but the ophthalmic test was negative, serum was administered according to the usual plan and any sign of reaction was looked for carefully. No individuals were seen who had previously had symptoms due to sensitivity to horse emanations or horse protein or who showed positive ophthalmic reactions to horse protein.

Thermal reactions accompanied by chills occurred at periods ranging from forty to ninety minutes after five different administrations of serum in four different patients. Hyperpyrexia was not observed. The incidence was 2 per cent of serum doses and 12.5 per cent of patients treated.

Serum sickness occurred six times among twenty-one recovered cases (29 per cent). It varied in severity from mere temperature elevation to arthralgia of six days' duration. Only two patients (9.5 per cent) had serum sickness that was at all severe.

COMMENT

The direct method of determining whether the mortality of a given disease has been altered by the use of a specific agent is that used by the authors quoted in table 1. It has been shown by these investigators that Felton's concentrated pneumococcic antibody reduces the death rate of type I lobar pneumonia and that it is especially effective when used early in the course of the disease. To the average practitioner, however, the effect on the death rate is not obvious, because each man treats comparatively few patients with type I lobar pneumonia. In order to be convinced that a new agent is effective, the physician wishes obvious improvement to follow its administration. The experiences outlined lead one to believe that obvious and consistent benefit occurs in patients with type I lobar pneumonia who have been treated with antibody within the first four days after the onset of the disease. The clinical evidences of specific therapeutic action of the serum are a shortening of the disease, an immediate effect on the bacteremia that may be present together with the prevention of the development of a bacteremia and, finally, a diminution in the incidence of spreading areas of consolidation.

A consideration of what these observations mean when translated to the conditions under which the average practitioner works brings up a number of practical questions. In the first place, early diagnosis of lobar pneumonia becomes of the greatest importance. It is probable that, when emphasis is placed on early diagnosis by the physician and eventually by the lay public, many more cases of lobar pneumonia will be recognized within the first two or three days. It is also probable that the number of early cases discovered in homes will outnumber those that are seen in hospitals. Secondly, the question must be solved of determining the type of pneumococcus as quickly as possible. To do this requires that an adequate typing service be established in the laboratories of states, of cities, of hospitals and of private individuals. The medical profession should appreciate that it has at hand a useful specific remedy for type I lobar pneumonia and that early diagnosis of pneumonia, early determination of the pneumococcus type, and specific treatment are feasible and imperative.

CONCLUSIONS

Felton's concentrated antibody produces obvious symptomatic changes in patients with type I lobar pneumonia, treated during the first four days of the disease.

A Foodstuff Defined.—Nutrition is the sum total of those processes by which the living organism receives and utilizes the materials necessary for the maintenance of life. This includes growth, the repair of worn-out structures, and the liberation of energy. The energy thus set free appears in the form of heat, mechanical work, electric currents, and perhaps also in ways yet unknown. Food has been defined as a palatable mixture of foodstuffs. A foodstuff is a material capable of being added to the body substance, or which when absorbed into the blood stream will prevent or reduce the wasting of a necessary constituent of the organism. For the animal organism, these nutritive substances are water, inorganic salts, the organic foodstuffs, and certain other substances of unknown chemical nature. The union of oxygen with the organic foodstuffs or their cleavage products maintains life and warmth in the cells. Water is the most urgently needed of these substances, which need can be measured by the exceeding promptness with which symptoms of deprivation appear and their extreme gravity.—McLester, J. S.: Nutrition and Diet in Health and Disease, Philadelphia, W. B. Saunders Company, 1931.

MESENTERIC INVOLVEMENT IN BUERGER'S DISEASE (THROMBO-ANGIITIS OBLITERANS)

REPORT OF TWO CASES

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My purpose in this paper is to review some salient points of thrombo-angiitis obliterans, laying especial stress on the involvement of vascular areas other than the extremities and adding two cases that came under my observation, in which the blood vessels to the intestinal tract were affected.

In 1878, von Winiwarter [1] reported a case in which the arteries of the lower extremities were occluded and which appeared to him to be due to a chronic proliferative process, having its origin in the intima, and being associated with an inflammatory reaction of the wall of the blood vessels. As a result of this study he proposed the name "endarteritis obliterans" for this condition. Later, von Manteuffel [2] suggested that the occlusion of the blood vessels in this disease is due to a primary arteriosclerosis, and to him the veins did not seem to be involved in the process. In 1897, Bachard [3] established the thrombotic nature of the disease and concluded that it is a primary thrombosis of the arteries and veins and its identity is distinct from arteriosclerosis. However, it was not until 1908 that Leo Buerger [4] rescued this condition from the heap of confusion and placed it on a sound clinical and pathologic foundation. He gave it the name thrombo-angiitis obliterans.

ETIOLOGY

The disease occurs most frequently, though not entirely, in Russian and Polish Jews. Cases have been reported in Turks, Koreans, Chinese and Japanese. Buerger, in a series of 500 cases, found 7 gentiles. The disease is confined to males, though a few cases have been reported as occurring in females. Syphilis is not a cause of this disease. At first some observers believed that an excessive use of tobacco might be an etiologic factor, but the many instances encountered in which the typical disease develops in men who have never smoked has led to its being regarded as an undetermined factor.

Although no definite infectious agent has been found as yet which might be the cause of this strange malady, the clinical and pathologic evidence leads one to suppose that thrombo-angiitis obliterans is an infectious disease. Recently Buerger [5] succeeded in implanting clots from patients with "acute" thrombo-angiitis obliterans and thus produced typical lesions in the veins of inoculated persons. Barber asserts that a diplostreptococcus is the causative factor, while Rabinowitz reports the isolation of an organism which is capable of producing the disease; but their work has not been corroborated by other investigators.

1. von Winiwarter, Felix: Ueber eine eigentümliche Form von Endarteritis und Endophlebitis mit Gangrän des Fusses, Arch. f. klin. Chir. **23**: 202, 1878.
2. von Manteuffel: Ueber angio-sklerotische Gangrän, Arch. f. klin. Chir. **42**: 569-574, 1892.
3. Bachard: Beitraege zur primaeren Endarteritis Obliterans, Deutsche Ztschr. f. Chir. **39**: 130, 1897.
4. Buerger, Leo: Thrombo-Angiitis Obliterans: A Study of the Vascular Lesions Leading to Presenile Spontaneous Gangrene, Am. J. M. Sc. **136**: 567, 1908.
5. Buerger, Leo: Thrombo-Angiitis Obliterans: Experimental Reproduction of Lesions, Arch. Path. **7**: 381 (March) 1929.

PATHOLOGY

The gross pathologic changes in the blood vessels consist of:

1. Thrombosis, obliterating the lumen of the vessels.
2. Fibrotic thickening of the tissues around the vessels; a periarteritis.
3. A certain amount of arteriosclerotic changes.
4. Involvement of both the arteries and the veins.

Microscopically, the arteries and veins show a slight thickening of the intima as well as a perivascular connective tissue proliferation. The occluding tissue is an old thrombus showing organization and canalization. In these old cases, some blood pigment may be found embedded in the thrombus. The internal elastic lamina is not stretched or distorted, nor do the elastic fibers of the intima penetrate into the thrombotic mass, as in arteriosclerotic processes.

In more recent cases there is round cell infiltration, and there is an outgrowth of capillaries from the adventitia through the media and intima to vascularize the obliterating mass. There may be some red thrombi present. In the very recent "acute" cases the artery and vein may be merely filled with a red clot, and in some parts the clot is seen to be adherent to the vessel wall with diffuse leukocytic infiltration. In the occluding clot one finds "miliary giant-cell foci," a finding not present in any other thrombotic condition. These vascular changes may lead to partial or complete occlusion of the vessels, which is associated with that malicious chain of symptoms characterized by intermittent claudication, coldness, pallor and rubor, and finally gangrene of the extremities.

DISTRIBUTION OF LESIONS

Is thrombo-angiitis obliterans a disease of the extremities? Reports of this condition affecting other "vascular territories" are gradually accumulating. Though little postmortem study has been made on cases of thrombo-angiitis obliterans with reference to other vascular involvement, these few reports published are convincing evidence that this disease uses a greater vascular territory than was formerly believed. I have found reports of twenty-six cases affecting other vessels besides the extremities. These I have tabulated according to the author, age, blood vessels involved and ultimate result, giving references to the original contributions. From this chart one can readily see that thrombo-angiitis may attack any part of the vascular tree, and its distribution may be extensive. Why the vessels of the extremities are more frequently involved than others is not known. It may be surmised that the great vascular demands made on these vessels, the static conditions, the exposure of the vessels to frequent thermic changes, as well as the frequent mild traumas that the extremities are subject to, are all important contributing factors. However that may be, it is of great clinical and pathologic importance to realize that thrombo-angiitis obliterans is not entirely confined to the vessels of the extremities. That other vessels may be attacked while those of the extremities are apparently uninvolved is admirably illustrated by McGregor and Simson's case. These authors found the disease entirely confined to the spermatic vessels. The extremities were apparently, at that time, clinically free. Of the twenty-six cases charted, only three (cases 3, 18 and 23) show involvement of the mesenteric vessels, and of these only two showed intestinal changes:

Buerger's case (case 23): Two days after amputation of the left thigh for thrombo-angiitis obliterans, the patient developed intense abdominal pain and rigidity. A diagnosis of mesenteric thrombosis was made and at operation a gangrenous intestine was found due to mesenteric occlusion.

Meyer's case (case 3): The patient came to the hospital on account of abdominal pain, distention and occasional vomiting of only ten weeks' duration. Prior to that the patient had been free from any symptoms. His right and left legs had been amputated in 1912 and 1914, respectively. It is noteworthy to mention that in 1907 he had an acute gastro-intestinal attack accompanied by nausea, pain and diarrhea. An exploratory operation was performed. "The transverse and ascending colon and all the loops of the small bowel were

Distribution of Lesions

Case	Author	Name	Age	Vessels Involved	Result
1	McGregor, A. L., and Simson, F. W: Brit. J. Surg. **16**: 539 (April) 1929	P. L.	28	Spermatic	Removal of testis
2	Murphy, cited by McGregor and Simson	.....	..	Renal	
3	Meyer, Jacob: J. A. M. A. **83**: 1414 (Nov. 1) 1924	J. R.	47	Mesenteric	Death
4	Perla, David: Surg. Gynec. Obst. **41**: 21 (July) 1925	H. K.	44	Aorta: coronary	Death
5	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	37	Coronary	Death
6	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	47	Coronary	
7	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	45	Coronary	
8	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	44	Coronary	
9	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	43	Coronary	
10	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	48	Coronary	
11	Allen, E. V., and Willius, F. A.: Ann. Int. Med. **3**: 35 (July) 1929	.....	40	Coronary	
12	Barron, M. E., and Linenthal, Harry: Arch. Surg. **19**: 735 (Oct.) 1929	J. S.	48	Cerebral	
13	Barron, M. E., and Linenthal, Harry: Arch. Surg. **19**: 735 (Oct.) 1929	M. G.	45	Cerebral	
14	Barron, M. E., and Linenthal, Harry: Arch. Surg. **19**: 735 (Oct.) 1929	J. M.	46	Coronary	
15	Riesman, David: J. A. M. A. **91**: 1521 (Nov. 17) 1928	.....	44	Coronary	Death
16	Czerna, stephen: Arch. f. inn. Med. **12**: 213, 1926	.....	36	Cerebral; coronary	Death
17	Buerger, Leo: Am. J. M. Sc. **149**: 210, 1915	.....	35	Cerebral	
18	Lewis, Dean: Arch. Surg. **15**: 613 (Oct.) 1927	.....	47	Aorta; celiac axis; carotids	Death
19	Thomas, H. M., Jr.: Am. J. M. Sc. **165**: 86 (June) 1923	....	44 44	Coronary Coronary	
20	Telford, E. D., and Stopford, J. S. B.: Brit. M. J. **2**: 1035 (Dec. 6) 1924	.....	40	Iliac	
21	Lemann, I. I.: Am. J. M. Sc. **176**: 807 (Dec.) 1928	H. S.	55	Coronary	Death
22	Buerger, Leo: The Circulatory Disturbances of the Extremities, 1924, pp. 368-374	.....	..	Spermatic	Orchidectomy
23	Buerger, Leo: The Circulatory Disturbances of the Extremities, 1924, pp. 368-374	F. K.	24	Coronary	Death
24	Buerger, Leo: The Circulatory Disturbance of the Extremities, 1924, pp. 368-374	B.D.	21	Aorta; celiac axis; mesenteric	Death
25	Buerger, Leo: The Circulatory Disturbances of the Extremities, 1924, pp. 368-374	S. A.	35	Cerebral	Death
26	Buerger, Leo: The Circulatory Disturbances of the Extremities, 1924, pp. 368-374	I. L.	35	Aorta	Death

greatly distended. No collapsed loop of bowel, obstruction or organic lesion was found. The walls of the entire bowel were greatly hypertrophied. . . . The mesenteric vessels were sclerotic and no pulsation was obtained. The patient died forty-eight hours after the operation. No necropsy was obtained." It is remarkable that the patient was free from symptoms until ten weeks prior to admission to the hospital. From the anatomic observations it is evident that his condition took considerable time to develop. Obviously his collateral circulation was sufficient to maintain intestinal function.

REPORT OF CASES

CASE 1.—W. F., aged 44, a laborer, born in Russia, was admitted to the Hospital for Joint Diseases, May 12, 1926, complaining of pain in both legs of four years' duration. He also had cramplike pains in the ankles which radiated to the feet. The pain was aggravated by walking. About six weeks prior to his admission to the hospital he noticed a bluish discoloration of his toes.

On admission the patient had beginning gangrene of the fourth toes of both feet. There were trophic changes in the skin and nails of both feet. The dorsalis pedis artery was palpable on the left but not on the right. The posterior tibial artery was bilaterally palpable. The toes blanched on elevation and became red when dependent.

The urine contained a slight trace of albumin. Examination of the blood showed white blood cells numbering 12,000, with 90 per cent hemoglobin, 83 per cent neutrophils, and the blood sugar 100 mg. per hundred cubic centimeters. The blood Wassermann reaction was negative.

He was placed on the routine hospital treatment and his condition improved greatly. He was allowed to leave the hospital, July 16.

He was readmitted to the hospital, December 13, on account of a small ulcer, which developed on the middle toe of the left foot. On admission, the terminal phalanx of the middle toe of the left foot was ulcerated. The bone was exposed and necrotic. The edges of the wound showed healthy granulations. His temperature was normal.

The urine contained a trace of albumin. The red blood cells numbered 5,792,000; hemoglobin, 75 per cent; white blood cells, 11,150, with 81 per cent neutrophils. The blood Wassermann reaction was negative. The blood sugar was 95 mg. per hundred cubic centimeters.

He was again placed on routine treatment and his condition improved greatly. The terminal phalanx sloughed off and the wound showed healthy granulations.

Feb. 1, 1927, he developed a dull abdominal pain which was described as "cramps." He belched a lot of gas and vomited several times. There was general abdominal rigidity but no distention or tenderness. He was given an enema without any result. His temperature was 100.2 F. and pulse 98. White blood cells numbered 20,000, with 83 per cent neutrophils. Involvement of some mesenteric vessel was suspected, but on account of the excellent condition of the patient there was no urgency to interfere.

February 2, the abdominal condition was the same. The temperature was 102 F.; pulse, 100; white blood cells numbered 16,000, with 87 per cent neutrophils. There was no bowel action.

February 3, the abdominal condition was the same. The temperature was 101 F., pulse 120; the white blood cells numbered 28,800, with 91 per cent neutrophils. The general condition was good.

February 4, the abdomen was soft. There was no pain. There was normal bowel action. The temperature was 100 F., the pulse, 90. The white blood cells numbered 21,300, with 87 per cent neutrophils.

February 5, the abdomen was soft. The general condition was good. The temperature was 99.6 F.; the pulse, 84. There was normal bowel action.

He was discharged, February 17, absolutely free from abdominal symptoms.

March 21, the patient was admitted to another hospital with a similar attack of abdominal pain. It was generalized over the entire abdomen. There was marked rigidity in both lower quadrants. An exploratory laparotomy was performed, March 26, during which was found a gangrenous intestine, about 18 inches (46 cm.) long. The gangrenous portion was resected and an enterostomy was performed. The patient died six hours after the operation. Mesenteric thrombosis was found. No postmortem examination was obtained.[6]

CASE 2.—M. M., a man, aged 32, an American Hebrew, was first seen with Dr. Samuel Adler, July 3, 1930, on account of severe abdominal pain in the epigastrium. The patient had a similar but milder attack one year before, during which an ulcer of the stomach was suspected. A gastro-intestinal series was taken but revealed no abnormality in the gastro-intestinal tract. Following that he was symptom free till the present attack. In 1926 his right leg had been amputated for thromboangiitis obliterans, and in 1927 his left leg was removed by Dr. Leo Buerger for the same condition.

When first seen, he complained of severe epigastric pain of several hours' duration. The pain was agonizing and he threw himself around in bed pressing his fists into the epigastrium. This, he said, gave him relief.

His abdomen was perfectly soft. Deep pressure in the epigastrium or rubbing gave him some relief. He vomited several times. His temperature was normal; the pulse, 68; the blood pressure was 128 systolic and 80 diastolic. His color was good. The heart and lungs showed no abnormalities. He was given an enema with good results. It is noteworthy to add that he described his pain as being as if some one had kicked him in the pit of the stomach. Three doses of morphine, ¼ grain (16 mg.) each gave him no relief. Two ampules of atropine sulphate, 1/150 grain (0.4 mg.) each relieved him considerably, and he slept for seven hours.

The urine contained no albumin or sugar. The hemoglobin was 85 per cent. The white blood count was 9,000, with 70 per cent neutrophils. The blood Wassermann reaction was negative.

July 4, he still complained of abdominal pain, but it was not so severe.

July 5, he still complained of slight "soreness" in the epigastrium. His abdomen was soft; there was no tenderness. Temperature and pulse were normal.

July 6, he was free from all symptoms and was allowed outdoors. Two days later a gastro-intestinal series was taken but revealed no abnormality in the gastro-intestinal tract.

September 10, the patient, while visiting in Buffalo and New York, had a similar attack of abdominal pain which lasted ten hours.

November 1, I was again called to see the patient, who had a similar attack of pain in the epigastrium. There was no abdominal tenderness or rigidity. Pressure on the epigastrium gave him relief. His pulse was 70; his temperature was normal. The blood pressure was 130 systolic and 80 diastolic. His color was good. He vomited once. His heart and lungs were normal. He threw himself around in bed, rubbing and pressing his abdomen. Two ampules of atropine, 1/150 grain (0.4 mg.) gave him relief, and he slept for several hours. He had three more similar attacks during the following forty-eight hours, and each time atropine relieved his pain. He is at present free from symptoms and doing his usual work.

RECAPITULATION

1. The history, etiology and pathology of thromboangiitis obliterans are discussed.

2. Special stress is laid on the distribution of the lesions other than of the extremities.

3. Twenty-six cases from the literature, of lesions affecting other blood vessels besides those of the extremities, are tabulated.

4. I have added two of my cases to the list. One patient had intestinal symptoms of mesenteric involvement which cleared up for a while, but later the patient

6. Tunick, I. S.: Personal communication to the author.

succumbed to mesenteric thrombosis. The second patient gives evidence of involvement of the mesenteric blood vessels. He is evidently presenting symptoms of intermittent claudication of the mesenteric vessels and, unless I am wrong, is the first case on record.

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RETROPERITONEAL HEMORRHAGE SIMULATING ACUTE PERITONITIS *

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During the past few years I have had the opportunity of observing three or four patients with retroperitoneal hemorrhage with acute symptoms of short duration. On all occasions, because of the similarity of symptoms and signs to those of early peritonitis caused by appendicitis or a ruptured viscus, laparotomy was advised and performed. Although the preoperative diagnosis was erroneous in all the cases, an operation on three of the four patients really was found to be a necessary procedure. Appreciating the difficulty in distinguishing between retroperitoneal hemorrhage and early peritonitis, I sought aid from the literature but was surprised to learn that there are practically no references to retroperitoneal hemorrhage in the literature, at least during the past ten years.[1] Neither could any information of significance be found in the surgical textbooks of recent years. However, I did find a short report of two cases by Bonar [2] of London. The symptoms and signs in one of his cases were similar in practically every detail to those of early peritonitis, consisting of pain in the right side of the abdomen with muscle rigidity, nausea, and vomiting of two or three days' duration. The preoperative diagnosis was uncertain, but "acute cholecystitis or an appendicular abscess was suggested." At operation no intra-abdominal lesion was found, but a large retroperitoneal hemorrhage was found in the region of the right kidney. One year later a nephrectomy was performed and a melanotic sarcoma of the kidney found. The second case described by Bonar had sufficient abdominal symptoms to cause the surgeon in charge to perform a laparotomy, but the details of the operative observations are not given. The patient suddenly collapsed and died one week after operation. At autopsy it was found that an abdominal aneurysm had ruptured, filling the retroperitoneal space on the right side with blood.

There was a history of severe trauma immediately preceding hospital admission in all my cases except one.[3] The onset of the symptoms of this patient (case 2) occurred two days before admission to the hospital. When first noted, the pain was poorly localized in the lower abdomen and was followed in an hour or so by vomiting. By the next day the pain had shifted to the right lower quadrant, but vomiting persisted. There was marked tenderness and muscle spasm over the right lower quadrant of the abdomen. The leukocyte count of the blood was 12,200. Because these signs simulated those of an acute appendicitis with early peritonitis, a laparotomy was performed with that diagnosis in mind. At operation a huge mass the size of one's fist was found under the cecum. Incision through the posterior peritoneum exposed a huge blood clot, which was evacuated. The wall of the cecum, the surrounding peritoneum and the meso-appendix were infiltrated with blood. The appendix was grossly normal, except for a few tiny hemorrhages in the wall which were exposed by cross-section. The cause of the hemorrhage was never determined. Although purpura was suspected, there was no history of subcutaneous or visceral hemorrhages at any previous time. Nor did the laboratory observations support that diagnosis. It appears most likely that a mild trauma, which had escaped the patient's attention, was probably the factor producing the hemorrhage.

Two of the three remaining patients had blood in the urine. One had been in an automobile accident a few hours previous to entry. The other had been shot. The bullet entered anteriorly at the level of the costal margin on the right side and was palpable in the back just medial to the spinous process of the eleventh dorsal vertebra. The man who had been in the automobile accident had severe pain in the upper left part of the abdomen with tenderness and muscle spasm at this point extending back over the kidney (case 1). During the short period of observation, he vomited twice. A blood count revealed a leukocyte count of 23,800. On account of the blood in the urine I was positive that the patient had an injury somewhere in the urogenital tract, most likely in the left kidney. However, the presence of muscle spasm in the upper abdomen on the left side, vomiting and leukocytosis pointed so strongly to a ruptured viscus that it was considered unsafe not to perform a laparotomy. This was done, but nothing was found except a large retroperitoneal hematoma on the left side, caused by a laceration of the anterior part of the kidney. There was no blood or urine in the peritoneal cavity. The patient who had been shot (case 3) also had blood in the urine. There was diffuse muscle spasm and tenderness over the entire abdomen, which was most marked over the upper right quadrant. The patient was nauseated but had not vomited. There was a leukocytosis of 12,200. As in case 1, I was again positive that there was a renal lesion, but so much pain and muscle rigidity existed anteriorly that laparotomy was considered imperative. Again I found no injury to any intra-abdominal organs but, instead, a huge hematoma surrounding the right kidney. There was no blood or urine in the peritoneal cavity. In this instance, however, there was a faint odor of urine in the blood clot that was evacuated. The bullet had pierced the central portion of the kidney but had apparently not injured the calices.

The fourth patient in this series was admitted, following a serious automobile accident, and complained of severe abdominal pain. Muscle rigidity was present over the entire abdomen to an extreme degree. Tenderness was most marked over the left side but was present also over the spines of the lower lumbar vertebrae. A roentgenogram of the spine revealed a questionable impacted fracture of the fourth lumbar vertebra. A blood count revealed 20,000 leukocytes. There was no blood in the urine. The patient was nauseated but had not vomited. Although mindful of the presence of a probable fracture of the fourth lumbar vertebra, I was misled by the extreme muscle rigidity with leukocytosis

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1. I was indirectly informed that W. D. Reddish of Lexington, Ky., had prepared a report on retroperitoneal hemorrhage for publication a year or two ago, but I was unable to find any reference to it in the literature.

2. Bonar, T. G. D.: Two Cases of Retroperitoneal Hemorrhage, Lancet **1**: 1078 (May 21) 1921.

3. This patient was admitted in the service of Dr. Robert Elman at the St. Louis City Hospital, to whom I am indebted for permission to include the patient in my series.

and performed a laparotomy on the man, expecting to find a ruptured viscus. At operation, no blood or intestinal content was found in the abdominal cavity. However, at this time I was unaware of the tendency for retroperitoneal hemorrhage to simulate peritonitis and did not explore the retroperitoneal spaces. It is scarcely correct to include this patient in the series, but I feel that extravasation of blood from the fractured vertebra into the retroperitoneal space is a better explanation of the muscle rigidity than is injury to the spinal cord or to the peripheral nerves originating therefrom. The distribution of the peripheral nerves that might be injured by the fracture of the fourth lumbar vertebra itself is so far down on the perineum and lower extremities as to exclude them from any part in the production of the symptoms and signs presented by the patient. In view of the absence of peritonitis, the leukocyte count of 20,000 would appear to support my contention that a hemorrhage existed around the body of the injured vertebra. The possible relation of the sympathetic nerves to the production of symptoms and signs will be discussed later.

COMMENT

As stated previously, I have been greatly surprised to learn how completely the clinical picture in retroperitoneal hemorrhage may simulate the symptoms and signs of early peritonitis. I know of no way to differentiate between the two conditions preoperatively, even after my experience of four laparotomies with negative intra-abdominal signs. The pain and muscle rigidity observed in these cases has certainly been equal to that seen in the average case of early peritonitis, whether caused by appendicitis or by ruptured viscus. Moreover, the leukocyte counts varying between 12,000 and 23,800, presumably caused by hemorrhage and shock, is approximately equal to that seen in early peritonitis. In none of my cases was the drop in the red blood cell count or hemoglobin sufficient to justify a diagnosis of hemorrhage. Although two of the patients in the series were nauseated, they had not vomited. However, I was fortunate in seeing these patients within two or three hours after the accidents. It is possible that they would have vomited if observed longer. Although vomiting occurs relatively early in patients sustaining rupture of the intestine, one certainly sees many patients with this injury who do not vomit during the two or three hour period following the accident. Moreover, patient 2 had vomited from fifteen to twenty times during the forty-eight hour period over which his symptoms had persisted before admission to the hospital. That certainly is as much vomiting as is expected of any patient with peritonitis.

Since the enlightening experimental work of Walton, Moore and Graham,[4] demonstrating the importance of the sympathetic nervous system in the mechanism of vomiting, I have considered that this system, stimulated by the hemorrhage around the nerve trunks, may be the important factor in the production of the clinical picture presented by these patients with retroperitoneal hemorrhage. Whether this stimulation, if really important, takes place around the nerve trunk or in the endings of the sympathetic nerves within the posterior peritoneum cannot be determined. In two of my cases, the lesion appeared to be absolutely too far down in the lumbar region to allow explanation of the symptoms and signs by stimulation of peripheral spinal nerves.

4. Walton, F. E.; Moore, Robert; and Graham, E. A.: The Nerve Pathways in the Vomiting of Peritonitis, Arch. Surg., to be published.

REPORT OF CASES

CASE 1.—A. C., a man, aged 20, entered Barnes Hospital, Aug. 6, 1927, one hour after having been injured in an automobile accident. Pain in the left upper quadrant of the abdomen was severe and extended upward into the left side of the chest, especially on deep inspiration. During the examination in the emergency room the patient vomited twice.

There was marked tenderness and muscle spasm over the left upper quadrant of the abdomen, with tenderness extending also over the region of the left kidney posteriorly, where a definite fulness was made out. The leukocyte count two and one-half hours after the accident was 23,800. The temperature was 37 C. (98.6 F.) and the pulse rate 110 per minute. Acute local tenderness, indicative of fracture, was present over the ninth and tenth ribs, posteriorly, on the left side. The pain in the left upper quadrant of the abdomen and the lower left part of the chest was quite intense and did not decrease any during the time of observation. A voided specimen of urine was grossly stained with blood, indicating injury to the kidney. In spite of the fact that I was aware of at least a slight injury to the kidney, I felt that immediate laparotomy was indicated because of the muscle rigidity in the left upper quadrant of the abdomen, the vomiting, and the high leukocytosis.

The abdomen was explored through a left rectus incision, but no evidence of any injury whatever to any of the intra-abdominal organs was found. The left kidney, however, was surrounded by an ecchymotic swelling the size of half a grapefruit. The posterior peritoneum was intact and there was no contamination of the peritoneal cavity from the contents of this mass. The peritoneum was incised and most of the mass found to be a blood clot. The remainder proved to be tissue heavily infiltrated with blood. There was a laceration 3 cm. long across the lower pole of the anterior surface of the kidney. Much to my surprise, there was no evidence whatever of contamination of the surrounding area by urine. No urinary odor could be detected. The blood clots were evacuated and the laceration in the kidney was repaired with interrupted catgut sutures. The incision in the posterior peritoneum was repaired and the anterior abdominal wound closed without drainage. The patient was then turned on his side and a drain inserted up into the perirenal space through a stab wound under the costal margin posteriorly. Convalescence was uneventful except for signs of a pneumonia at the right base, lasting three or four days. The drain in the stab wound was removed in two days, and the wound healed in a few days. He was discharged about two and one-half weeks after entry. When seen one year later, the urine was normal.

CASE 2.—C. J., a man, aged 23, entered St. Louis City Hospital, Feb. 5, 1930, in the service of Dr. Robert Elman, with the primary complaint of pain in the right lower quadrant. The onset of symptoms was two days before entry, with pain in the lower abdomen followed in an hour or so by vomiting. By the following day the pain had shifted to the right lower quadrant. The vomiting persisted. The patient stated that he had vomited fifteen or twenty times in the two days prior to admission. No urinary symptoms were present. The bowels had moved every day and stools were grossly normal. There was no history of attacks of a similar nature or of subcutaneous hemorrhages suggestive of purpura.

On examination, the patient presented all the signs of an acute appendicitis. There was marked tenderness and muscle spasm over the entire right lower quadrant of the abdomen. The temperature was 37.4 C. (99.3 F.), pulse rate 98 and respiratory rate 24 per minute. A blood examination revealed 12,200 leukocytes, 4,400,000 erythrocytes and 85 per cent hemoglobin. The systolic blood pressure was 156, diastolic 98. The urine was normal. A diagnosis of early peritonitis, probably arising from an acute appendicitis, was made and early operation advised. No subcutaneous hemorrhages were found. At operation, the cecum was found to be pushed forward by a mass about the size of one's fist. Incision through the posterior peritoneum exposed a huge blood clot, which was evacuated. The wall of the cecum and the meso-appendix were infiltrated with blood. The appendix was normal grossly but was removed and the stump inverted. Incision into the

lumen of the appendix disclosed numerous small hemorrhages in the wall. Further exploration revealed nothing abnormal. The spleen was of normal size and its surface was smooth. A small rubber drain was inserted down to the cavity beneath the cecum and the wound closed around the drain. The patient made a satisfactory recovery in spite of some respiratory difficulty for a few days, which probably was best explained by a mild collapse of the right lung. He was well at the time of discharge two and one-half weeks after operation.

CASE 3.—R. R., a Negro, who entered the St. Louis City Hospital, No. 2, July 21, 1926, had been shot in the lower part of the chest an hour before admission. When seen in the examining room, he was in mild shock with a pulse rate of 110 a minute but with a normal temperature. There was a bullet wound in the lower part of the chest at the level of the costal margin, anteriorly. The bullet could be palpated in the back just to the right of the eleventh dorsal vertebra. There was diffuse tenderness and muscle spasm over the entire abdomen, which was very pronounced over the right upper quadrant. The pain in the upper part of the abdomen was severe. The patient was nauseated but up until the time of operation, about two hours after his injury, had not vomited. It is very likely that, had a longer time elapsed between his injury and operation, vomiting would have ensued. The leukocyte count was 12,200. Catheterization revealed bloody urine. On the basis of this finding I was positive that the patient had an injury to the right kidney, but the extreme amount of muscle spasm present, especially in the right upper quadrant of the abdomen, along with nausea, led me to believe that he had a perforation of a viscus with early peritonitis. With these signs, I considered that an immediate laparotomy through an anterior incision was indicated.

At operation no intra-abdominal injury was found. The bullet had passed harmlessly through the peritoneal cavity but had penetrated the central portion of the right kidney, splitting it transversely. The entire perirenal space was occupied by a huge blood clot. This was evacuated. It was remarkable what little evidence there was of urinary extravasation or contamination. The entire kidney had suffered so much trauma, as evidenced by ecchymosis, swelling and edema, that nephrectomy seemed advisable. This was done, and the posterior peritoneum was closed after the kidney was removed. The anterior abdominal wound was closed, and a stab wound was made in the lumbar region, with the insertion of a drain into the renal space. The patient died the next day, however, in spite of the routine supportive measures to combat shock.

CASE 4.—G. M., a man, aged 21, entered Barnes Hospital, Nov. 18, 1925, having been injured in an automobile accident two hours previously. He was complaining of severe abdominal pain, which radiated posteriorly. He was nauseated but had not vomited.

His temperature was 37.7 C. (99.9 F.) and the pulse rate 100 a minute. The leukocyte count was 20,000. The urine was normal. The abdomen was diffusely rigid throughout, with tenderness most marked to the left of the umbilicus. There was also moderate tenderness over the spine of the lower lumbar vertebra. Detailed examination for sensory or motor disturbances was negative. A roentgenogram of the spine revealed a faint line in the fourth lumbar vertebra, suggestive of a compressed fracture.

The presence of an extreme amount of muscle rigidity throughout the abdomen along with nausea and a high leukocytosis made a laparotomy seem imperative in spite of the fact that I was aware of the presence of a fracture of the fourth lumbar vertebra. Operation was performed two or three hours after admission. There was no evidence of injury to any of the intra-abdominal organs except a slight reddening of the small intestine in a few areas.

Not being aware at this time of the possible relation of retroperitoneal injury to the production of symptoms and signs similar to those of peritonitis, I did not explore the retroperitoneal regions. Recovery was uneventful. On account of the faint fracture line through the body of the fourth lumbar vertebra, immobilization by a plaster jacket was done for a few weeks after the wound had healed. The patient was discharged four and one-half weeks after admission.

602 South Euclid Avenue.

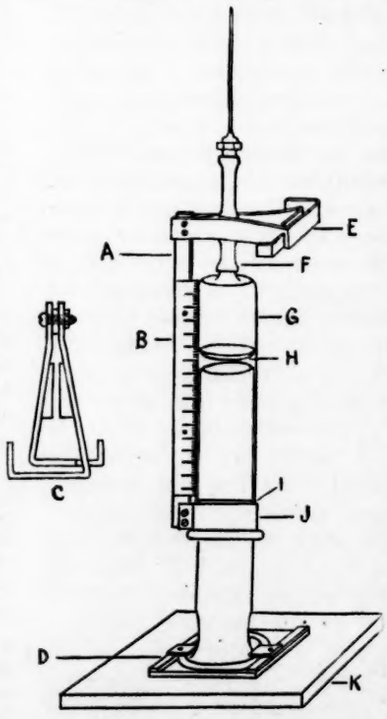
Clinical Notes, Suggestions and New Instruments

GAS ANALYSIS WITH AN ALL-GLASS SYRINGE FOR PNEUMONIA TENTS *

YANDELL HENDERSON, PH.D., AND L. A. GREENBERG
NEW HAVEN, CONN.

Oxygen tents are now coming into extensive use for the treatment of pneumonia. As a rule, analysis of the atmosphere in these tents is unnecessary. If the gas is passed in at the rate of 7 or 8 liters a minute, there is a considerable diffusion of air inward and oxygen outward through the bedclothes, even if the curtains of the tent are tucked in tightly. The result is a concentration of 40 to 50, or at most 60, per cent of oxygen. Higher concentrations are inadvisable. The reactions of the patient are really the most significant indication of the best concentration.

For purposes of investigation, however, and particularly for a special form of tent for the administration of mixtures of oxygen and carbon dioxide soon to be introduced, gas analyses are convenient. But as precise gas analysis is a highly specialized technic, which is usually unfamiliar to a hospital staff, it is desirable to provide a simple method and apparatus for analysis which are yet sufficiently accurate for clinical purposes. To meet this need we have devised an analyzer [1] and technic employing a 20 cc. glass syringe with a convenient pinchcock and stand, as shown in the accompanying illustration.



Arrangement of syringe for use as a gas analyzer: *A*, brass rod; *B*, celluloid millimeter scale; *C*, top view of pinchcock; *D*, brass clamp; *E*, brass pinchcock; *F*, rubber; *G*, 20 cc. glass syringe; *H*, fluid; *I*, rubber; *J*, brass strap; *K*, wooden base.

The syringe should be one that has had sufficient use for the plunger to fit quite freely; or else its fit should be eased with a small amount of fine emery powder. Analyses can indeed be carried out without the special form of pinchcock and stand here shown. The metal stopcock used on syringes for taking blood samples can be employed also for this analysis; or a bit of rubber tubing with a serrefine or hemostat is effective. But the arrangement shown in the illustration is decidedly more accurate and less liable to breakage. The end of the plunger should be flat so that the syringe can be stood upright on a table or in the clamp shown in the illustration. The hypodermic needle on the syringe should have a bore of about 1 mm.

The arrangement consists of a pinchcock of spring brass closing the rubber tube on the nozzle of the syringe and supported on a brass rod. The rod in turn is attached to the syringe by a brass strap lined with a strip of rubber. This metal strap must be tight, but the syringe will break if glass and metal come in direct contact: hence the need for the rubber inside it. On the brass rod is fastened a celluloid scale graduated in millimeters or, better, half millimeters. The zero

* From the Laboratory of Applied Physiology, Sheffield Scientific School, Yale University.

1. This apparatus may be obtained from Eimer and Amend, Third Avenue at Nineteenth Street, New York, and from the Mine Safety Appliances Company, Braddock Avenue and Thomas Boulevard, Pittsburgh.

of the scale is opposite the upper end of the syringe. Readings are made in linear millimeters. It is also convenient to have a base of wood, as shown in the illustration, with clips in which the end of the plunger may be placed when a reading of volume is made. It is essential that the syringe be held vertically, as any tilting introduces an error in the reading of the gas volume.

When the apparatus is to be used, the barrel and plunger of the syringe are dried and then lubricated with a drop of liquid petrolatum, which is worked in so as to coat the inner surface of the barrel and protect the glass from the chemical absorbents to be introduced later. In drawing a gas sample, the needle is first thrust through the curtain of the tent and the plunger of the syringe worked back and forth two or three times, while the pinchcock is held open. After 18 or 20 cc. of air has been drawn in, the pinchcock is allowed to close; the syringe is withdrawn from the curtain; the needle is dipped into a beaker of water, and 1 or 2 cc. of water is drawn in. The syringe is then stood upright, resting on the plunger, the flat end of which is held in the brass clamp on the wooden base. As soon as the syringe has lost the heat imparted by the hand and has come to the temperature of the room, the volume of air is read. For this purpose the upper edge of the meniscus, where the water meets the glass, is used and it is read as finely as possible against the scale at the side. A magnifying glass aids somewhat in precision of reading. It is essential that the barrel of the syringe should move so easily on the plunger at this time that the gas within is neither expanded nor compressed, except by the weight of the barrel, which is constant. If a drop of liquid adheres to the upper end of the syringe, as often occurs, it should be drained down the side by tilting the syringe.

The syringe is now removed from the clamp on the wooden base, the needle is dipped into an absorbent solution, and 2 or 3 cc. is drawn in. The syringe is shaken until no further absorption of gas and contraction of volume occur and then placed upright in the stand with its weight resting on the plunger. As soon as it has come to the temperature of the room, the second reading is made. The syringe is then again shaken and, if necessary, an additional amount of absorbent is drawn in. When two successive readings are identical, they are taken as indicating the correct volume. The initial volume, in units of the scale, is divided into the difference between the two readings and gives the percentage of the gas absorbed.

The absorbent used for carbon dioxide is a normal solution of potassium hydroxide. For oxygen a powder is prepared consisting of 100 Gm. of sodium hydrosulphite mixed with 10 Gm. of anthrahydroquinone-β-sulphonic acid. For analyses about 2 Gm. of this powder is dissolved in 10 cc. of the potassium hydroxide solution, yielding a red liquid of which 2 or 3 cc. is drawn into the syringe. The advantage of this absorbent for oxygen is that it is a thin liquid with a color that fades out when its absorbent power is exhausted. The liquid is made up in a small beaker or flask and is protected from the air by a layer 2 or 3 mm. deep of liquid petrolatum.

If the gas sample is to be analyzed both for carbon dioxide and for oxygen, the potassium hydroxide solution is used first. Most of this solution, but of course none of the air, is discharged from the syringe before the hydrosulphite solution is drawn in. If the content of carbon dioxide is not to be determined separately, the hydrosulphite solution may be used immediately and yields a figure for the sum of the oxygen and any carbon dioxide that may be present. For oxygen, the method is reliable to about 1 per cent; an accuracy of within 2 or 3 per cent is as much as is clinically significant. For carbon dioxide, an accuracy of 0.5 per cent or better is easily attainable, which is about the degree of precision that is needed clinically. With care in the analysis, figures within 0.25 per cent of those obtained by precise gas analysis result.

CONCLUSION

The essential points in the use of an all-glass syringe for approximate gas analysis are as follows: (*a*) The sample of air to be analyzed is drawn into the syringe plus a little water, and the end of the syringe is closed either by a metal stopcock or a spring clip on a bit of rubber tubing. (*b*) During the reading of the volume of gas the syringe is held needle upward, with its weight supported on the plunger. (*c*) The upper edge of the meniscus of the liquid in the syringe is read either on the graduation of the syringe or on a finer outside scale. (*d*) The carbon dioxide and oxygen in the gas sample are absorbed by suitable reagents, which are drawn into the syringe and shaken with the gas sample.

Special Article

THE INDISPENSABLE USES OF NARCOTICS

IN THE TREATMENT OF DISEASES OF THE GASTRO-INTESTINAL TRACT*

ROBERT A. HATCHER, M.D.
NEW YORK

Diarrhea is the most common disease of the gastro-intestinal tract for which narcotics are used and the only one that will be discussed here; but this discussion will serve to indicate the uses and limitations of these drugs in other gastro-intestinal diseases. The use of morphine in the gastric crises of tabes will be discussed under tabes. Alvarez [1] says that many opinions relating to the physiology and pharmacology of this region must be revised, and that an understanding of these is essential for the treatment of diarrhea. The diet exerts a profound influence on the entire digestive tract. Different parts of the gastro-intestinal tract vary enormously in size in different species. Man's stomach is simple; the small intestine is relatively short, and the cecum relatively small.

The rôles of the sympathetic, the vagus and the plexuses of Auerbach and Meissner in the normal gastro-intestinal tract are not known. The vagus is partly sensory, and Hatcher and Weiss [2] found evidence of several types of sensory fibers with reference to their response to drugs, such as atropine, ergotoxine and pilocarpine; this is true also of the sympathetic nerve. Alvarez says that the vagus is a plexus of nerves of all sorts and sizes, medullated and nonmedullated; that most of the fibers probably are connector neurons running from the brain to the motor ganglions in Auerbach's plexus, but that it also contains sensory neurons and some sympathetic fibers.

A peristaltic wave originating below the pylorus may sweep over the entire intestine to the anus and cause evacuation when the intestine is abnormally sensitive, and distention of the stomach by food or water may inaugurate the gastrocolic reflex and produce a prompt evacuation.

The isolated intestine placed in a warm bath of physiologic solution of sodium chloride reacts toward drugs much like the normal intestine, but there are centers in the cord and in the medulla that influence the intact gastro-intestinal tract profoundly at times, and the application of a trace of picrotoxin to the center in the medulla of the dog causes diarrhea immediately.

* These articles are prepared under a plan of cooperation between the American Medical Association, the Committee on Drug Addiction of the Division of Medical Sciences of the National Research Council, and the Division of Mental Hygiene of the United States Public Health Service. Their object is to reduce the legitimate use of addiction drugs to a minimum by replacement, wherever possible, with other remedies that will accomplish the desired result. The physicians of the United States are the essential group in any such attempt and it is hoped that these articles will be useful to them in their practice. The funds for this work have been donated to the National Research Council by the Bureau of Social Hygiene, Inc.

1. Alvarez, W. C.: The Mechanics of the Digestive Tract, ed. 2, New York, Paul B. Hoeber, Inc., 1929.

2. Hatcher, R. A., and Weiss, Soma: Studies on Vomiting, J. Pharmacol. & Exper. Therap. **22**: 139 (Jan.) 1923.

Diarrhea results from exaggerated normal peristalsis, frequently with excessive secretion; hence the necessity of discussing the normal movements of the gastro-intestinal tract. Liquids pass fairly rapidly from the stomach into the small intestine, but solid food leaves the stomach more slowly. Food begins to leave the stomach almost at once, the control of the pylorus being a matter of dispute; but acids or alkalis in the stomach probably cause the pylorus to relax, while hydrochloric acid in the duodenum causes it to close, and the rate at which different foods leave the stomach in health probably depends mainly on differences in rates of gastric digestion. The rapid passage of the gastric contents into the intestine is a common cause of increased peristalsis. The main function of the ileocecal sphincter is probably prevention of the return of cecal material into the ileum. The colon serves mainly as a reservoir and for the absorption of liquid. It is often stated that material in the colon is moved backward and forward alternately by peristaltic and antiperistaltic movements, but it probably remains nearly stationary for hours at a time and moves forward as a result of the gastrocolic reflex induced by distention of the stomach. Alvarez [1] believes that this reflex is more active in the morning after the long period of rest, and that most people have morning evacuations because the colon is more distended at that time and because the gastrocolic reflex following breakfast results in the movement of material along the colon toward the sigmoid. This movement is not usually sufficient after other meals to induce defecation. Anything that greatly increases the excitability of the gastrocolic reflex may cause diarrhea, especially if peristalsis hurries abundant material into the colon.

The common causes of diarrhea in infancy and the methods of treating it differ in many ways from those in adults; therefore, they are conveniently considered separately. The following classification is based largely on that of French.[3]

DIARRHEA IN INFANCY AND EARLY CHILDHOOD

Acute: (1) that due to infection—so-called summer diarrhea; (2) that due to faulty digestion—shown by examination of stools (*a*) of casein—white tough particles in stools insoluble in mixtures of alcohol and ether, (*b*) of fat—slimy green stools with small granular masses soluble in a mixture of alcohol and ether, (*c*) of sugar—frothy sour stools, and (*d*) green stools which are of no special diagnostic value as they result from rapid passage of contents through the intestine.

Chronic: (1) that following acute summer diarrhea; (2) that following acute diarrhea from faulty digestion.

DIARRHEA IN ADULTS

Acute: (1) that due to faulty digestion; (2) that due to gastro-intestinal irritation or infection—such as that accompanying appendicitis, typhoid; (3) that due to one of miscellaneous diseases—such as pernicious anemia, chronic nephritis, exophthalmic goiter or common "cold"; (4) incidental to the therapeutic use of drugs—administration of thyroid, abuse of cathartics.

Chronic: (1) that due to faulty digestion (*a*) resulting from insufficient gastric secretion and (*b*) from defective pancreatic secretion with fat in the stools; (2) enteritis with catarrh of the small intestine—due to irritants or infections; (3) colitis—frequently follows the acute; (4) nervous—due to disturbances of psychogenic or neurogenic origin, tabes dorsalis, etc.; (5) that secondary to various types of acute indigestion, and (6) that due to new growths.

The cause of chronic diarrhea may escape the most careful diagnosis, and Alvarez [1] cites a case of persistent diarrhea of normally solid feces in the middle of the colon that became liquefied in the rectum. French [3] describes a form of chronic diarrhea usually beginning in the second or third year and characterized by offensive stools containing undigested fats and fatty acids, frequently with a mistaken diagnosis of tuberculosis.

There is probably always a nervous factor in diarrhea, but simple nervousness does not commonly cause it. Fear, anger or worry with lasting depression often interferes with digestion and with the rate of emptying the stomach; hence with evacuation of the bowel.

TREATMENT

The therapeutic treatment of diarrhea includes the following measures:

1. *Correction of Causes.*—The misuse of narcotics in the treatment of diarrhea is almost in inverse proportion to the wisdom shown in the use of simple measures; hence these are first discussed briefly.

Training will go far in assisting the intelligent patient to avoid those conditions which give rise to gastro-intestinal disturbances. Indiscretions in diet probably constitute the most common cause of diarrhea, but the patient usually fails to associate diarrhea with the food that causes it, partly because of the delay in onset. Patients should be trained to observe any disturbing effects of various foods. A slight change in diet often suffices to correct diarrhea due to faulty digestion of fat, but well nourished young children do better for a time when nearly all food is withheld.

Chilling of the abdomen is a common cause of enteritis, some individuals being especially susceptible. French [3] says that fecal impaction in the colon may cause paradoxical diarrhea, especially in elderly persons, and that a thorough evacuation arrests the trouble. Dry, hard, impacted feces are most easily softened by a warm enema of soapsuds with glycerin, warm olive oil or liquid petrolatum. Cathartics frequently cause diarrhea. Evacuation does not occur normally until a certain bulk—varying widely with individuals—accumulates in the colon. After active purgation the colon remains empty or insufficiently distended to produce evacuation for periods of from one to three, or even seven, days, dependent on the nature of food taken, completeness of digestion and absorption in the intestinal tract. Cathartics often cause some anorexia, and little food may be taken during the first days after active catharsis. That taken may leave little residue, so that the colon remains nearly empty for days and the gastro-colic reflex does not cause evacuation. If the patient persists in the use of increasing amounts of irritant cathartics the bowel is irritated, intestinal secretion is increased and diarrhea results. On the other hand, many suffer inconvenience if the bowels are not evacuated every two or three days, and mildly acting laxatives often prove the lesser of two evils. Morphine and opium reduce the effectiveness of the cathartics, causing increasing amounts to be taken with increasing irritation of the intestine resulting in a vicious circle and tending to induce chronic diarrhea.

Diarrhea is always attended with excessive peristalsis; hence foods and even liquids should then be

3. French, H.: Index of Differential Diagnosis, ed. 3, New York, William Wood & Co., 1921, pp. 170-172.

used sparingly. Intestinal antiseptics seem to be indicated in infection of the intestine, but there is no available substance which, after oral administration, destroys bacteria in the cecum, in which bacteria mainly thrive, and which is nontoxic to the patient. Many substances that are actively bactericidal in high concentration cease to be so in low concentration, and this diminishes progressively as the substance is diluted with successive portions of gastric and intestinal secretion and there is a constant diminution in the total amount of antiseptic present in the intestine because of its continued absorption into the circulation. Hydrochloric acid is an extraordinarily active antiseptic, and with proper digestion and absorption of food and absorption of liquid there is a minimum of putrefaction in the normal intestine.

2. *Drugs.*—A tablespoonful of castor oil is a mild nonirritating laxative, useful in children and adults. It can be given conveniently in the form of a flavored emulsion. Potassium and sodium tartrate or magnesium sulphate in a glass of water is equally effective. These serve to remove fermenting and putrefying material and if given sufficiently early may prevent an attack of diarrhea or relieve it in the early stages. The early administration of morphine or opium prevents the complete removal of toxic material and may do incalculable harm.

Tannic acid in the form of gambir or acetyltannic acid is used to allay inflammation and lessen peristalsis. Bismuth subcarbonate is mildly astringent; with water it forms a creamy mixture which coats the mucous membrane and prevents irritation by intestinal contents, checking diarrhea without causing constipation. It also neutralizes acidity. The subnitrate is more frequently employed, but the subcarbonate is to be preferred. The official chalk mixture is sweetened with glycerin and flavored with cinnamon, and does not undergo fermentation. It neutralizes acidity, coats the mucous membranes, lessens pain due to irritation and often avoids the use of morphine and opium. Lime water, properly diluted or added to the milk of infants, corrects simple hyperacidity. Hypnotics of the barbital type allay nervousness and frequently diminish intestinal peristalsis.

Morphine and opium are used for their depressant action and they should be given in very small doses and repeated only so often as is necessary to check diarrhea; but they should not be used to prevent the removal of irritating and toxic material. Excessive evacuations exhaust the patient and serve no useful purpose, and morphine or opium is often indicated.

Sinclair [4] says that children often enter the hospital suffering from opium poisoning and that morphine and opium are often withheld when they should be used to allay exhausting pain and excessive peristalsis. Leubuscher [5] recommends papaverine as a harmless means of quieting the intestine in children, though he finds it less certain and prompt than morphine; it must be used in doses from two to four times as large as those of morphine. Unfortunately, codeine has comparatively little influence on intestinal peristalsis. Much has been written concerning the proprietary mixtures or compounds of opium alkaloids, but there is no satisfactory evidence that any of these possess distinct advantages over morphine and opium.

4. Sinclair, J. F.: Use and Abuse of Drugs in Summer Diarrhea, New York M. J. **114**: 148 (Aug. 3) 1921.
5. Leubuscher, G.: Untersuchungen über den Einfluss der Opiumalkaloide auf die Darmbewegungen, Deutsch. med. Wchnschr., 179, 1892.

There are many special forms of diarrhea which cannot be considered in detail here, but sufficient has been said to indicate the uses and limitations of morphine and opium by those who have mastered the physiology of the gastro-intestinal tract.

414 East Twenty-Sixth Street.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, Secretary.

MEAD'S POWDERED BREWER'S YEAST.—Dried brewers' yeast narvested under aseptic conditions, when tested by the method of Chick and Roscoe, it assays approximately 13 vitamin B_1 (F) units per gram (364 units per ounce avoirdupois) and approximately 1 vitamin B_2 (G) unit per gram (280 units per ounce avoirdupois).

Actions and Uses.—Mead's powdered brewer's yeast is proposed for prophylaxis and treatment of conditions arising from deficiency of the vitamin B complex in the diet; because of its content of vitamin B it is also proposed as a means of stimulating the appetite and growth and for a beneficial effect in lactation.

Dosage.—In anorexia and other supposed manifestations of vitamin B deficiency in infants, from 3 to 9 Gm. (1 to 3 level teaspoonfuls) daily; for nursing mothers, 36 Gm. (3 level tablespoonfuls) daily.

Manufactured by Mead Johnson & Co., Evansville, Ind. No U. S. patent or trademark.

Mead's powdered brewer's yeast is a fine, grayish-yellow powder having a characteristic odor and taste. It is readily miscible with cold, warm, or hot water; with milk or other food.

It is tested for vitamin potency by the method of Chick and Roscoe (*Biochem. J.* **22**: 698, 1927; **23**: 483, 1929), the unit of vitamin B_1 being defined as that amount of substance which, added to the diet of rats showing symptoms induced by deficiency of B_1 (F), will give an average weekly gain in weight of 3 Gm. for eight weeks; the unit of vitamin B_2 (G) being defined as that amount of substance which, added to the diet of rats reduced to constant weight or slight loss by deficiency of B_2 (G), will give an average weekly gain in weight of 3 Gm. for eight weeks. The product is required to have not less than 12.8 units of vitamin B_1 per gram (364 per ounce avoirdupois) and not less than 0.98 unit of vitamin B_2 (G) per gram (280 per ounce avoirdupois).

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, Secretary.

SOLVOCHIN NOT ACCEPTABLE FOR N. N. R.

Solvochin (Spicer & Co., Glendale, Calif., distributor) is a solution of quinine hydrochloride containing small amounts of quinine base together with sufficient phenyldimethylpyrazolon (antipyrine) to render the basic quinine soluble. According to the label it is a "stable aqueous quinine solution," each 2 cc. being equal to 0.484 Gm. (about 7½ grains) of quinine hydrochloride, 0.012 Gm. (about 1½ grains) of basic quinine and 0.4 Gm. (about 6 grains) of antipyrine. It is claimed that the solution possesses advantage over the usual quinine preparations in that it may be injected without local irritation. It is recommended in the advertising as the medicament of choice in the treatment of lobar pneumonia, and it is claimed to be essential that the injections of quinine for the treatment of this disease be by the intramuscular route. Although quinine has been used in the treatment of pneumonia, its value has not yet been fully demonstrated, and it is certainly not the "medicament of choice"; furthermore, recent work seems to show that intramuscular injections are absorbed less efficiently than oral doses.

It is claimed that experience has shown that Solvochin "is practically free from the unpleasant after-effects (dizziness, tinnitus, etc.) that generally follow the administration of quinine";

this, if true, can only be explained by the small dosage that is administered.

The Council declared Solvochin unacceptable for New and Nonofficial Remedies because it is marketed with unwarranted therapeutic claims.

COMMITTEE ON FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COMMITTEE ON FOODS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION.

RAYMOND HERTWIG, Secretary.

ZED BISCUITS

Manufacturer.—Zed Corporation, San Francisco.

Description.—Twice baked biscuits, leavened with baking powder, containing cracked whole wheat, whole wheat flour, rye meal, oat meal, wheat bran, bread flour, coconut oil, butter milk (cultured), caramelized sugar, brown sugar and a mixture of orange, pineapple, grape and apple juices.

Manufacture.—The various ingredients are well mixed in a dough mixer. The dough is removed to a cutting machine, is forced through apertures in the machine-die, and issues in the form of ribbons, which are cut into biscuit form. The dough biscuits drop onto wire trays and are baked in a revolving reel oven. The trays are removed and placed on drying racks until all apparent steaming has ceased.

The dry biscuits are transferred to a second revolving oven, rebaked, removed to a drying conveyor for drying, and then sent to the packing bench. The biscuits are packed in paper lined, wax paper covered, paraffined cartons.

Chemical Composition.—

(proximate analysis)	per cent
Moisture	4.8
Ash	2.7
Protein (N × 6.25)	9.4
Fat (ether extract)	16.4
Crude fiber	2.0
Reducing sugars as invert	1.0
Sucrose	16.5
Carbohydrates (by difference) other than crude fiber	64.7

Calories.— 4.44 per gram
126.1 per ounce

Claims of Manufacturer.—Zed Biscuits are wholesome, nutritious, regulative and delicious. They are mildly regulative by reason of the roughage and fruit juice content. These crisp crunchy biscuits require thorough and vigorous chewing and for that reason are of probable benefit to the teeth and gums. The roughage of the bran and whole wheat helps to toughen the gums.

MERRELL-SOULE POWDERED CULTURED SKIMMED LACTIC ACID MILK (AKRELAC)

Manufacturer.—Merrell-Soule Company, Inc., New York (subsidiary of the Borden Company).

Description.—A powdered artificial buttermilk soured with pure culture of lactic acid organisms (*Streptococcus lactis*).

Manufacture.—Fresh whole milk from healthy inspected cattle is used in the manufacture of Akrelac. This milk is obtained from dairy farms subject to the requirements and supervision of the New York State Health Department. All milk received at the plant is carefully inspected for temperature, flavor, acidity and sediment and is rejected unless all these factors are satisfactory. Chemical and bacteriologic laboratory tests are made on the whole milk as it is received and on every batch of the finished product.

Immediately after receipt, the milk is heated to approximately 80 F. in order to facilitate separation, which is accomplished in mechanical separators. The skim milk is then rapidly heated to 160 F. and maintained at that temperature for a sufficient period to give the effect of thorough pasteurization. The milk is then pumped to the tin-lined incubation vats of 10,000 pounds capacity and inoculated with a pure culture of lactic acid producing organisms and sufficient heat is applied to favor the growth of these organisms. When the proper amount of acidity of lactic acid has developed, the milk is thoroughly mixed and cooled to 45 F. and stored in glass lined holding tanks. It is finally dried by the Merrell-Soule spray process by spraying under pressure into a tin lined chamber heated to 170 or 180 F. The dry milk is withdrawn from the spray chamber at regular intervals and immediately packed by a special gas process in clean cans.

Chemical Composition.—

(proximate analysis)	per cent
Moisture	3.0
Ash (minerals)	8.0
Protein (N × 6.38)	36.0
Milk-fat	1.0
Milk sugar	47.8
Free lactic acid	4.2
Total titratable acidity as lactic acid	5.0

Calories.— 3.61 per gram
102.5 per ounce

Micro-Organisms.—The type of pasteurization employed in the manufacturing process operates to destroy any pathogenic organisms that might be present. From this point in the process, extreme care is taken to prevent any possible contamination. While the bacterial count of the finished product varies considerably, the average is low.

Vitamins.—The vitamin content is only slightly less than that of the skimmed milk used in its preparation.

Claims of Manufacturer.—In infant feeding: 1. To rectify digestive disturbances under artificial feeding and especially in cases of intolerance for normal quantities of butter-fat of cow's milk. 2. For acute intestinal disturbances (diarrhea, dysentery). 3. Prolonged malnutrition (athrepsia, marasmus). 4. Complemental feeding.

Akrelac is easily reliquefied to any desired concentration, a decided advantage over fluid buttermilk. The milk-fat present forms a fine emulsion and the casein fine friable curds, which are easily digested. The composition is uniform. The vitamins of the skimmed milk used are somewhat decreased in potency. The vacuum-can insures keeping qualities. As a result of the high acidity it is rapidly digested and absorbed and is well suited for feeding the new-born, including premature infants under the physicians' directions. It is helpful at the time of weaning for effecting transition from breast milk to whole cow's milk.

Akrelac can also be mixed with Merrell-Soule Powdered Whole Lactic Acid Milk to obtain any degree of milk-fat desired.

WHEATENA (The Delicious Wheat Cereal)

Manufacturer.—The Wheatena Corporation, Wheatenaville, Rahway, N. J.

Description.—A toasted granular wheat cereal composed of the embryo, essentially all of the endosperm and the major portion of the bran of red winter wheat.

Manufacture.—Red winter selected wheat mainly from Ohio and Pennsylvania is carefully cleaned of foreign material by special mill cleaning processes and then granulated between steel rolls. The granular material of a definite size freed from the coarse outer bran layers and fine flour is toasted. In the toasting, considerable of the moisture is driven off and the material takes on a darker or brown color, the germ becoming especially browned. The toasted material is cooled and automatically packed in paper cartons.

Chemical Composition.—

(proximate analysis)	per cent
Moisture	7.7
Ash	1.31
Protein (N × 5.7)	10.2
Fat (ether extract)	2.3
Crude fiber	1.5
Carbohydrates (by difference) other than crude fiber	77.0

Calories.— 3.58 per gram
101.0 per ounce

Claims of Manufacturer.—Wheatena is a quick cooking wheat breakfast cereal with an individual toasted flavor requiring from two to three minutes for preparation. It contains nothing but wheat. It is recommended for babies and growing children. It furnishes the natural minerals, proteins and fats of the embryo and of the major portion of the bran of the wheat.

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion. — Ed.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following report of the Secretary is respectfully submitted:

MEMBERSHIP

The names of 99,964 members were enrolled on the records of the Association on April 1, 1931. This compares with an enrolment of 99,181 on April 1, 1930. The deaths of 1,569 members were reported during the year 1930.

FELLOWSHIP

The number of enrolled Fellows on April 1, 1931, was 64,936. On the same date in 1930 there were 65,419 on the Fellowship roster.

An accompanying table presents data concerning the number of component county medical societies, the number of members of each constituent state medical association and the number of Fellows in each state.

PROPOSED AMENDMENT TO CONSTITUTION

At the Detroit session last year Dr. D. E. Sullivan, New Hampshire, submitted the following amendment as a substitute for section 2 of article 5 of the Constitution:

The House of Delegates is composed of delegates elected by the constituent associations and by the sections of the Scientific Assembly, and of delegates from the medical departments of the Army and the Navy and the Public Health Service and Veterans' Bureau appointed by the Surgeon General of the respective departments and by the medical director of the Veterans' Bureau. The Trustees, the ex-Presidents of the Association and the members of the several councils shall be ex officio members of the House of Delegates without the right to vote, provided that members of the Councils who are also elected delegates may exercise all of the rights of elected delegates.

The effect of this amendment, if adopted, would be to admit a representative of the medical department of the United States Veterans' Bureau as a member of this House of Delegates.

The Secretary considers it his duty to call attention to the fact that the By-Laws require that all delegates shall have been Fellows for two years immediately preceding the session at which they are to serve.

RESOLUTIONS TO BE INTRODUCED

The following resolutions have been transmitted to the Secretary by Dr. Carl F. Moll, Michigan:

WHEREAS, The advancement of medical science through the results of research and practical experience has stimulated many physicians to confine their professional activities to limited and special fields of medical practice, and

WHEREAS, There has thus been created a class of specialists in medicine, and

WHEREAS, There appears to be a growing tendency on the part of physicians who are not properly qualified to hold themselves out as specialists; therefore be it

Resolved, That the Speaker of the House of Delegates shall appoint, by and with the advice of the President and the Board of Trustees, a Commission on Qualifications for Specialists composed of nine members; that said Commission shall undertake to define the qualifications that should be required of the individual physician who desires to limit his practice to any special field and to be known as a specialist, and that in arriving at such definition the Commission on Qualifications for Specialists should give consideration to questions of education, training and clinical experience; and be it further

Resolved, That this Commission shall give consideration to the present status of specialization in medicine, and shall define the various specialties which in the opinion of the Commission may be considered as necessary for the best interests of the public and of scientific medicine; and be it further

Resolved, That the Council on Medical Education and Hospitals be directed to render its assistance to the Commission on Qualifications for Specialists, and that the Board of Trustees be requested to provide necessary clerical assistance; and be it further

Resolved, That this Commission shall report to the House of Delegates concerning the advisability of the possible enactment of legislation whereby state boards of medical examiners or other bodies charged with the administration of practice acts may be empowered to issue special licenses to physicians who wish to qualify and to practice as specialists; and be it further

Resolved, That the report of this Commission and its recommendations shall be submitted to the House of Delegates, through its Secretary, at the next annual session.

Organization of Constituent State Associations

	No. of Counties in State	No. of Component Societies in State	Number of Counties in State Not Organized		No. of Physicians in State (1931 A.M.A. Directory)	Number of Members of State Associations		No. of A.M.A. Fellows in State
			1930	1931		1930	1931	
Alabama	67	67	..	..	2,257	1,663	1,672	544
Arizona	14	12	1	1	411	245	283	225
Arkansas	75	63	11	10	2,034	1,109	1,012	462
California	58	39	15	15	9,421	4,959	5,019	3,798
Colorado	63	25	28	22	1,802	1,131	1,114	744
Connecticut	8	8	..	..	2,011	1,360	1,396	938
Delaware	3	3	..	..	261	174	173	106
Dist. of Columbia	..	..	..	..	1,956	608	645	527
Florida	67	35	21	19	1,770	1,093	1,033	527
Georgia	161	97	44	50	2,917	1,914	1,763	705
Idaho	44	11	2	2	393	164	165	115
Illinois	102	92	5	7	11,105	7,457	7,371	5,432
Indiana	92	81	3	3	4,102	2,781	2,775	1,665
Iowa	99	97	..	..	3,154	2,371	2,308	1,502
Kansas	105	61	38	32	2,214	1,662	1,537	919
Kentucky	120	114	8	4	2,904	1,877	1,866	767
Louisiana	64	43	20	19	2,047	1,324	1,296	736
Maine	16	15	1	1	1,013	794	742	388
Maryland	23	22	..	..	2,419	1,258	1,490	834
Massachusetts	14	18	..	..	6,375	4,534	4,671	3,001
Michigan	83	54	5	5	5,319	3,495	3,435	2,481
Minnesota	87	36	2	2	3,084	2,220	2,266	1,603
Mississippi	82	22	4	3	1,633	1,010	1,067	339
Missouri	115	90	15	16	5,650	3,354	3,361	2,006
Montana	56	15	28	28	501	334	325	229
Nebraska	93	53	23	24	1,800	1,201	1,196	788
Nevada	17	5	13	12	130	87	96	69
New Hampshire	10	10	..	..	575	496	485	260
New Jersey	21	21	..	..	4,045	2,642	2,807	1,893
New Mexico	31	12	17	19	367	219	226	157
New York	62	60	1	1	19,817	12,490	12,846	8,855
North Carolina	100	89	4	2	2,355	1,592	1,698	731
North Dakota	53	13	9	10	501	408	413	305
Ohio	88	86	..	2	8,432	5,426	5,547	3,418
Oklahoma	77	64	12	12	2,435	1,674	1,634	822
Oregon	36	16	5	4	1,265	687	685	547
Pennsylvania	67	62	4	4	11,795	8,002	7,973	5,294
Rhode Island	5	6	1	1	799	440	441	356
South Carolina	46	42	1	1	1,303	823	857	362
South Dakota	69	12	11	12	588	349	322	242
Tennessee	95	68	16	15	2,997	1,648	1,647	758
Texas	254	132	76	73	6,204	3,734	3,835	2,029
Utah	29	8	20	20	507	368	366	250
Vermont	14	10	3	3	497	339	343	190
Virginia	100	52	12	12	2,516	1,831	1,830	886
Washington	39	22	17	15	1,838	1,389	1,368	908
West Virginia	55	29	5	5	1,765	1,097	1,142	664
Wisconsin	71	51	1	1	2,987	2,200	2,203	1,519
Wyoming	24	9	15	13	232	154	153	108
Canal Zone and Panama	..	..	..	..	158	123	140	24
Guam, Samoa, Virgin Islands	..	..	..	..	27	...	...	...
Alaska	..	..	..	..	52	20	19	10
Hawaii	5	4	1	1	270	170	179	89
Porto Rico (Dist.)	7	7	..	..	356	270	302	68
Philippine Islands (Provinces)	56	9	48	47	1,464	411	426	50
Foreign	..	..	..	..	....	....	....	120
Total	3,142	2,072	566	548	154,830	99,181	99,964	62,365
Commissioned Officers, Honorary and Affiliate Fellows								2,571
								64,936

Dr. J. D. Brook, Michigan, has given notice of his intention to offer, for consideration by the House of Delegates, the following resolutions:

WHEREAS, The Michigan State Medical Society, through its Committee on Civic and Industrial Relations, has made a comprehensive study of the question of filling out claim proofs of health and accident insurance companies; that this study has extended over a period of three years and has involved an extensive analysis of the subject, including a conference with representatives of several outstanding insurance companies; and that, as a result of such study and conference, the Michigan State Medical Society has adopted suitable resolutions providing for the charging of a fee to the insurance companies of not less than $2 for filling out each preliminary and final claim proof, and

WHEREAS, The Michigan State Medical Society, by its action in adopting such resolutions, has created the interest and favor of other state medical societies in the question, which equally affects every other state medical society; and that the Michigan State Medical Society has met with considerable opposition from the insurance companies, for the reason that they object strenuously to the plan, and point out that Michigan represents only a small section of the nation and should not undertake a project affecting the policy of all the insurance companies of the United States, and

WHEREAS, The rights and privileges of the individual physicians of the entire United States are involved and are being encroached on by the health and accident insurance companies which are continuing to insist that the services of the physician in filling out claim proofs are part of the physician's professional obligation to his patient; that the insurance companies are unwilling to concede that the information given to them is for their own statistical use in properly adjusting claims; and that they are unwilling to pay the physician his fee; therefore be it

Resolved, That the House of Delegates of the American Medical Association concur with and approve the action of the Michigan State Medical Society in adopting resolutions providing for the charging of a fee of not less than $2 for each preliminary and final claim proof; and that the House of Delegates of the American Medical Association authorize its Speaker to appoint a committee to whom this problem shall be referred; and be it further

Resolved, That this committee be instructed to study the facts and factors involved and to formulate a national policy that will result in remunerating physicians and surgeons for their services to insurance companies, when rendering these reports that contain expert opinions and professional advice; and be it further

Resolved, That the Committee of the Association shall make a full report and recommendation at the next annual meeting of the House of Delegates of the American Medical Association.

The following resolution, adopted by the Section on Diseases of Children at the Detroit session, was transmitted to the Secretary by Dr. Isaac A. Abt, delegate from that section:

Resolved, That it be recommended that the name of the section be changed from Section on Diseases of Children to Section on Pediatrics.

All of the foregoing resolutions were printed in the AMERICAN MEDICAL ASSOCIATION BULLETIN for March, 1931.

APPORTIONMENT OF DELEGATES

Section 3 of chapter I of the By-Laws provides that every third year after 1925 there shall be a reapportionment of delegates. The last reapportionment was made in 1928, and the provisions of the By-Laws require, therefore, that a new apportionment shall be made this year.

ACTIVITIES OF COMPONENT AND CONSTITUENT SOCIETIES

Notable progress has been made by many component county medical societies and by a number of constituent state medical associations in perfecting organization for the purpose of dealing with numerous problems which are distinctly the products of present social and economic conditions. Many of these problems were discussed at the Annual Conference of Secretaries of Constituent State Medical Associations held in Chicago in November, 1930. The members of this conference, including the secretaries and other officers of constituent associations and the editors of state medical journals, described in detail the methods that are being pursued in their respective states. The representatives of practically all the state associations were thus given the benefit of experiences secured through the activities of official bodies in individual states. In some instances, constituent state medical associations and the larger component county medical societies have undertaken investigations for the purpose of dealing with problems of peculiar interest to their own organizations. It is heartening to note the fine spirit of cooperation that exists whereby the results of the experience of one state association or one county society is made available to all.

In some states especial attention is being given to questions affecting the relations of medical organizations with the public, while in others questions of important economic interest have been made the subject of special study. In some instances, intensive effort has been made to establish effective cooperative effort between constituent state medical associations, or component county medical societies, and independent groups that are concerned in some manner with matters pertaining to the public health. The greatly increased interest that has developed within the last few years in these various matters will undoubtedly result in extending the helpful influence of the organized profession in many matters of social and economic importance.

IN APPRECIATION

As in previous years, the Secretary has received efficient assistance at the hands of nearly all with whom he has had official dealings. Courteous consideration, kindly encouragement and friendly and constructive criticism have come from many sources, all of which have helped to lessen the toil and to add to the joy of service.

Respectfully submitted. OLIN WEST, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

Marked Increase in Work of the Association

The year covered by this report of the Board of Trustees witnessed a marked expansion in the work of the various departments of the Association. A constantly growing demand for service to individual members and Fellows and to component societies and constituent associations stimulated greatly increased activities on the part of the entire administrative personnel in the headquarters offices. Independent professional and lay groups have appealed to the Association for information, and the public generally has utilized the services of the various councils, bureaus and departments to a degree hitherto unknown. It was to be expected from the experience of past years that the Association's work would expand, but the development of the past year was not anticipated. The usual seasonal recessions were altogether absent, and the facilities of practically every department were subjected to a most unusual test involving constant alertness and most intensive effort. It seems apparent that the activities in which the Association must engage will in the future be largely extended, both in scope and in quantity.

Income and Expenditures

Since careful effort was made to keep operating expenses down to the lowest possible sum compatible with efficient operation, there was naturally a considerable increase in the Association's net income, and the Board of Trustees was thereby enabled to credit a substantial amount to the surplus funds of the Association against the time when these must be drawn on to provide better and larger facilities for effective and economical operation.

As will be seen by an examination of the Auditor's Report, the gross income for 1930 exceeded that of the previous year. Receipts for Fellowship and subscriptions were larger because of the increased subscription price of THE JOURNAL authorized by the House of Delegates at the Portland session in 1929. There was also a gratifying increase in the receipts from the sale of advertising space in the Association's publications, and smaller increases will be noted in other items in the Auditor's Report.

Expenditures concerned with the production of the Association's publications were only slightly greater in 1930 than in 1929, while expenditures for the maintenance of those departments through which the general work of the Association is done were larger by about $30,000. There was only a slight increase in the miscellaneous expenses including building depreciation, maintenance, insurance and taxes, expense of legal counsel, and losses charged to miscellaneous publications. Larger expenditures for wages and salaries amounting in the aggregate to a little more than $25,000 were accounted for by the necessity of employing additional personnel in various departments, more especially in the Directory Department, through which the

Twelfth Edition of the American Medical Directory is being compiled. Larger expenditures for first class postage were more than offset by a decrease in the expenditure for second class postage.

A more or less significant item among the losses accounted for in the Auditor's Report is that of "Bad Debts." While the amount involved is small, it is nevertheless much larger than has heretofore been recorded. It is a remarkable tribute to the integrity and fidelity of the members of the medical profession and of organizations dealing with the Association that in transactions involving more than $1,500,000 it was found necessary to charge off a sum amounting to less than $6,000 under the item "Bad Debts" in a year characterized by what may prove to have been the worst financial depression the country has ever experienced.

Building and Equipment

The Association's building and its physical equipment have been maintained to the best possible advantage. The pressure occasioned by the inadequacy of the main building was relieved to some extent by the erection of a two-story brick building to be used for the storage of paper and other stocks, and by the reconstruction of a house immediately east of the main building which was damaged by fire and is now being used by the order department and for storage purposes.

TABLE 1.—*Approximate Count of Fellows and Subscribers on The Journal Mailing List, Jan. 1, 1931; Also Gain or Loss During 1930*

State	Fellows	Subscribers	Totals	Gain for Year	Loss for Year
Alabama	539	228	767	..	85
Arizona	216	106	322	..	...
Arkansas	425	155	580	..	91
California	3,590	2,220	5,810	..	341
Colorado	696	299	995	..	88
Connecticut	904	517	1,421	..	21
Delaware	101	52	153	..	6
District of Columbia	527	450	977	4	...
Florida	540	300	840	..	43
Georgia	686	319	1,005	..	104
Idaho	104	91	195	..	31
Illinois	5,193	2,462	7,655	..	501
Indiana	1,564	682	2,246	..	108
Iowa	1,384	470	1,854	..	136
Kansas	847	309	1,156	..	118
Kentucky	706	321	1,027	..	132
Louisiana	686	284	970	..	123
Maine	370	130	500	..	28
Maryland	805	449	1,254	..	152
Massachusetts	2,868	1,390	4,258	..	212
Michigan	2,314	1,073	3,387	..	135
Minnesota	1,469	593	2,062	..	207
Mississippi	318	151	469	..	81
Missouri	1,918	876	2,794	..	245
Montana	205	101	306	..	37
Nebraska	731	375	1,106	..	119
Nevada	61	25	86	..	5
New Hampshire	252	60	312	..	21
New Jersey	1,830	1,219	3,049	15	...
New Mexico	156	60	216	..	5
New York	8,388	4,845	13,233	..	563
North Carolina	685	340	1,025	..	85
North Dakota	241	96	337	..	41
Ohio	3,242	1,487	4,729	..	306
Oklahoma	752	246	998	..	78
Oregon	506	240	746	..	107
Pennsylvania	5,105	2,310	7,415	..	399
Rhode Island	340	152	492	..	9
South Carolina	345	164	509	..	66
South Dakota	220	120	340	..	16
Tennessee	708	385	1,093	..	109
Texas	1,856	733	2,589	..	275
Utah	214	76	290	..	26
Vermont	190	89	279	..	27
Virginia	836	481	1,317	..	85
Washington	820	321	1,141	..	66
West Virginia	607	244	851	..	84
Wisconsin	1,403	632	2,035	..	69
Wyoming	100	46	146	..	12

It has not yet been possible to acquire one piece of the property needed to carry out the plans tentatively adopted by the Board of Trustees for the erection of a new, larger and more adaptable building, which must be provided as soon as may be found feasible. In the meantime, the Board has endeavored to make wise investment of surplus funds which, with accruals, will be ready for use for building purposes.

Additions and improvements have been made in the Association's physical equipment. A rotary press with a capacity of ninety-six pages was purchased at a cost exceeding $70,000 and is now in operation. It will soon be necessary to discard one thirty-two page rotary press which has been in constant operation for nearly twenty-five years; and a new gathering machine will have to be installed within the near future, involving an expenditure of from $35,000 to $50,000. The Board of Trustees has continued its policy of taking advantage of every reasonable opportunity for the installation and use of machinery that will contribute to efficient and economical operation.

TABLE 2.—*Physicians Receiving The Journal* *

State	Number Receiving Journal	Physicians in State (11th A. M. A. Directory)	Approximate Percentage Receiving Journal
Alabama	767	2,257	34
Arizona	322	411	78
Arkansas	580	2,034	28
California	5,810	9,421	62
Colorado	995	1,802	55
Connecticut	1,421	2,011	70
Delaware	153	261	59
District of Columbia	977	1,956	50
Florida	840	1,770	47
Georgia	1,005	2,917	34
Idaho	195	393	50
Illinois	7,655	11,105	69
Indiana	2,246	4,102	55
Iowa	1,854	3,157	59
Kansas	1,156	2,214	52
Kentucky	1,027	2,904	35
Louisiana	970	2,047	47
Maine	500	1,013	49
Maryland	1,254	2,419	52
Massachusetts	4,258	6,375	67
Michigan	3,387	5,319	64
Minnesota	2,062	3,084	67
Mississippi	469	1,633	29
Missouri	2,794	5,670	49
Montana	306	501	61
Nebraska	1,106	1,800	61
Nevada	86	130	66
New Hampshire	312	575	54
New Jersey	3,049	4,045	75
New Mexico	216	367	59
New York	13,233	19,817	67
North Carolina	1,025	2,355	44
North Dakota	337	501	67
Ohio	4,729	8,432	56
Oklahoma	998	2,435	41
Oregon	746	1,265	59
Pennsylvania	7,415	11,795	63
Rhode Island	492	799	62
South Carolina	509	1,303	39
South Dakota	340	588	58
Tennessee	1,093	2,997	37
Texas	2,589	6,204	42
Utah	290	507	57
Vermont	279	497	56
Virginia	1,317	2,516	52
Washington	1,141	1,838	62
West Virginia	851	1,765	48
Wisconsin	2,035	2,987	68
Wyoming	146	232	63

* This table gives the number of physicians (based on the Eleventh Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage in each state. Copies to physicians in the United States Army and United States Navy are not included.

The Journal

The total number of copies of THE JOURNAL printed in 1930 was 5,045,916, with a gross weekly average of 97,056 copies. The net paid weekly average for the year was 93,705, which represents a decrease of 2,515 as compared with 1929, but which, nevertheless, shows a paid circulation larger than that reported in 1928. The loss in the paid circulation for 1930 was clearly due to the marked financial depression, which affected physicians just as it did other groups of the country's population. An appended table shows the approximate count of Fellows and subscribers on THE JOURNAL mailing list by states and indicates the gain or loss of subscribers in each state.

In a second table will be found the number of physicians, based on the Eleventh Edition of the American Medical Directory, in the United States, the number receiving THE JOURNAL and the approximate percentage of physicians in each state to whom THE JOURNAL goes.

The quality of the material presented in the columns of THE JOURNAL has been maintained at the high level which

has heretofore characterized this publication. It is becoming increasingly difficult to select material from the vast mass regularly submitted for publication. The scope of THE JOURNAL permits the acceptance of approximately 550 manuscripts in a year, whereas, in addition to the more than 300 papers read at an annual session, from 2,000 to 2,500 individual contributions are offered each year. There is a notable improvement in the quality of manuscripts offered and, when this is taken into consideration, together with the fact that so many more manuscripts are submitted than can possibly be published, it is apparent that the task of selection is becoming more and more difficult.

The editorial policy has been to comment promptly on all matters of national importance from the medical point of view, whether social, economic, legislative or scientific, and THE JOURNAL has devoted itself to emphasizing policies established by the House of Delegates and the Board of Trustees. THE JOURNAL has, in this way, come to be looked to by the medical profession for leadership in the consideration of problems in these various fields. THE JOURNAL has constantly cautioned against the acceptance of new discoveries without sufficient scientific evidence; it has influenced legislation for the benefit of the public and in the interest of scientific medicine, and has been the means of preventing both the medical profession and the public from falling victims to innumerable schemes apparently designed for the advancement of their promoters rather than for the public good.

The department of Queries and Minor Notes has become important for the service it renders to the practitioner, particularly the one far removed from the possibility of easy consultation. Questions submitted to this department of THE JOURNAL are answered either through the research services of the Association or by competent specialists in various fields who have done original work on the subjects concerned.

The reviewers of books for THE JOURNAL are instructed to review volumes without fear of unfavorable criticism, and these reviews are recognized today as perhaps the most honest critical opinions of any book reviews in medical periodicals.

The remaining departments of THE JOURNAL have been maintained according to the plan of previous years.

FIELD WORK OF THE EDITOR

During the year, the editor of THE JOURNAL addressed numerous audiences, including those composed of the members of medical societies, women's clubs, university bodies, important business organizations, and other lay groups. He appeared before ten component county medical societies in widely separated parts of the country and attended the annual meetings of three constituent state medical associations. He also served as a delegate of the Association to the annual meeting of the British Medical Association in Winnipeg, Canada, and officially represented the Association as a member of the United States Pharmacopeial Convention. He delivered addresses before the student bodies of several universities and colleges, and was a speaker on two occasions over nation-wide broadcasts. All of these addresses dealt with subjects pertaining to medicine and public health.

Special Journals

The series of periodicals published by the Association to advance the scientific status of the various specialties concerned have made for themselves a high place in the periodical literature of the world, and the year has seen advancement in practically every case rather than simply the maintenance of the status quo. Several of these periodicals have increased greatly the special sections devoted to abstracts; others have organized and coordinated such service. Some of the special journals have issued general reviews of the status of knowledge in various fields, constituting valuable monographs which might perhaps have been issued as separate publications. Each of these periodicals is provided with an index making it a work of reference for all time. The manuscript editing department of the association gives to all authors contributing to these journals special service in the editing of material and in the checking of bibliographies.

These special publications bring no financial profit; indeed, the publication of all but three of them involved a financial loss in the last year, but the understanding of the Board of Trustees is clear that their publication means the advancement of the specialties rather than any material return to the Association. It is anticipated that, if the gradually increasing specialization of physicians is kept up, it will mean increasing subscription lists and, indeed, many physicians who now presume to specialize in some of the fields concerned should be regularly acquainted with the material contained in these journals in order that their individual standards of practice may be benefited thereby.

The net loss sustained through the publication of this group of periodicals in 1930 was $6,892.19, which represents a decrease of approximately $19,000 as compared with the loss incurred in the preceding year.

The ARCHIVES OF OPHTHALMOLOGY, the ARCHIVES OF OTOLARYNGOLOGY and the AMERICAN JOURNAL OF DISEASES OF CHILDREN produced incomes larger than expenditures involved in their publication.

The Board of Trustees makes grateful acknowledgment to the members of the editorial boards of the special journals for the efficient, unselfish service they have rendered in making possible the production of these journals and in contributing so greatly to the promotion of scientific medicine.

The Library

During the last decade the library of the American Medical Association has grown from a small reference department, employing five people, concerned with the preparation of indexes for THE JOURNAL and the answering of a few bibliographic questions annually, to a department spreading over much of the fifth floor of the present headquarters building, employing twenty-six people in Chicago and four in Washington, and undertaking an extensive practical bibliographic service for the members of the Association and for subscribers to its publications.

Today, the library is concerned primarily with the preparation of the QUARTERLY CUMULATIVE INDEX MEDICUS. This publication is recognized throughout the world as one of the greatest assets possessed by modern medicine for furthering clinical knowledge and medical research. It gives permanence to the work of today; it carries forward the knowledge of this generation; it is the one important reference work needed by every physician. As has been pointed out in previous reports, there are approximately 1,800 medical periodicals in the world, including bulletins and periodicals in allied sciences. The question has frequently been raised as to whether or not a more serviceable index would not be one in which one thousand of the leading periodicals of the world would be indexed completely, omitting the remaining 800, devoted largely to commercial purposes, to small medical organizations or to highly technical subjects on the borderland of medical or related sciences. The Board of Trustees has decided that it would not be wise to index all of the periodicals. The question is important, since it seems likely that with the end of 1931 the support granted to this endeavor by the Carnegie Institution, amounting to $10,000 annually, will be discontinued. It will probably become necessary for the American Medical Association to assume the entire burden. Indeed, the Trustees have recommended that the Association continue the publication and plans are already under way for taking over the complete editing and publication of the QUARTERLY CUMULATIVE INDEX MEDICUS with January, 1932.

It should again be emphasized that this index is one of the greatest contributions that the Association can make to the progress of medical science. It facilitates research; it saves many hours of time for those who must be acquainted with progress in various medical fields; it permits the clinician in actual attendance on patients to find out promptly the latest efforts that have been made in various parts of the world for the prevention and care of every possible variety of disease. The work demands a highly trained personnel, familiar not only with various languages but also with medical terminology. The publication is costly and the Trustees are seeking an endowment in order that it may be continued in the future on a plane as high as if not higher than at present. The assumption of the entire task of editing and publication by the Ameri-

can Medical Association will involve subscription to an increasing number of periodicals, the employment of additional clerical and editorial help, and associated with this an increased amount of space for the library.

During 1930, the library arranged for lending 5,420 periodicals to physicians on individual requests. This is a service extended directly to the physician in the field. The Current Medical Literature department of THE JOURNAL regularly lists the contents of many of the medical periodicals of the world; abstracts are made of many of the articles. At the head of the Current Medical Literature Department each week is published an offer to lend to the physician on the mere payment of postage any periodical in which he may be interested so that he may read the article in full. It is significant that there should have been so many requests, particularly as so many large cities of the country now have adequate libraries for medical reference work. The reflection of the use of such libraries for reference is the fact that the library of the American Medical Association also supplied 3,250 lists of references to medical literature on special subjects. Here is definite indication of the manner in which physicians endeavor to keep abreast of progress in various fields.

In 1924 the headquarters of the American Medical Association established a Package Library service with the special intent of enabling practitioners in small communities to secure recent material on special subjects in which they might be interested for various purposes. During 1930 the library filled 2,067 requests for such packages. The letters of request indicate that the material is to be used in the preparation of manuscripts to be read before various medical societies, in the preparation of manuscripts for publication, and also to aid in the study of unusual or difficult cases in actual practice. Hence, the influence of the circulation of this material reaches far beyond the 2,067 individuals to whom the packages were supplied. An indication of the scope of the material furnished is the fact that the 2,067 packages contained approximately 45,000 pamphlets and reprints. The requests for packages have increased in number constantly since the establishment of this service, and it has been necessary to employ additional help in order to maintain the service with the efficiency that has always been a feature of this work.

The library of the American Medical Association also arranges for the receipt and the listing of all new books sent by publishers for review in THE JOURNAL. The total number of books received each year is approximately 2,000.

The circulating library maintained for the employees of the Association continued to attract interest and extensive use during 1930. Sixty new borrowers took out cards; approximately twenty-five books were issued daily, with a total circulation of 6,371 volumes for the year.

As was pointed out by Carlyle, the true university is a collection of books. The headquarters office of the Association is located in Chicago, where medical libraries are maintained by universities, by medical schools and by the John Crerar library. The Crerar library is one of the largest in the world and is especially available to the headquarters office for reference work and for other services. It is, nevertheless, desirable that the Association increase the quality of its individual library, both in number and in character of reference works available to the staff of the Association's publications and to the various departments and bureaus. Heretofore, periodicals received in the headquarters office have been kept for a period of five years and then sent to other libraries. It would, of course, be exceedingly worth while to be able to maintain complete files of all periodicals, not only for reference but also that they may be made available to physicians. The British Medical Association maintains a library from which books, as well as periodicals, may be borrowed by members of the Association. The library of the American Medical Association has not yet been able to develop a book lending service. The space available at present is used to the utmost. These considerations are mentioned in order that the House of Delegates may realize the directions in which the services of the library may be expanded, and in order that it may more definitely comprehend the necessity for a new building with additional space for the housing of the multiple and useful activities carried out in this department.

Hygeia

HYGEIA, the Health Magazine, published by the Association, has won recognition as the leading periodical in its field from the point of view of quality of material, style of presentation and dependability of content. In 1930, a year characterized by a severe financial depression, the magazine had so definitely made a place for itself and its circulation was so well maintained that it was published not only without financial loss but with a small profit.

Most significant is the manner in which HYGEIA is regularly referred to by educational authorities and the extent to which it is utilized in schools throughout the country. The policy has been to present facts concerning health and disease in attractive form with each article suitably illustrated by competent artists, and to provide educational material concerning health and disease for readers of every age from the small child to the leader in industry or the intelligent mother. The editorials have been regularly planned to comment on events of current importance and to present the facts regarding animal experimentation, new methods of treatment, fads and quackery and social medical topics. A special department of the periodical is devoted to the interests of the school and of the teacher.

Near the end of the year there was a falling off in subscriptions and renewals as a natural result of the untoward effects of the widespread financial depression. The reduction in the circulation of HYGEIA, however, was not nearly so marked as in the case of many other periodicals circulated among the public.

Advertising Department

A very large part of the total income of the Association is secured through the activities of the Advertising Department. Its operations in the year 1930 produced results of a highly satisfactory nature in spite of the unfavorable conditions that prevailed. A large amount of material offered for insertion in the advertising pages of the Association's publications is rejected each year because it does not comply with standards established in an effort to safeguard professional and public interests and to make the advertising sections of these periodicals useful to their readers. While the quantity of advertising matter accepted in 1930 was larger than in any previous year, the amount rejected was quite as large as ever before in a similar period of time, if not larger.

It is a noteworthy fact that the leading manufacturers of products used by physicians in their everyday practice have continued their patronage over a period of many years, indicating that THE JOURNAL and other periodicals issued by the Association offer a satisfactory means for informing the profession where the best products can be secured and at the same time produce satisfactory results for advertisers.

Cooperative Medical Advertising Bureau

Thirty official publications of constituent state medical associations are represented in the Cooperative Medical Advertising Bureau. The earnings of this bureau for the year 1930 were $29,855.56. Of this amount, the sum of $14,000 was rebated in proportionate amounts to cooperating journals. The operating expenses of the Bureau, including salaries, supplies, postage, travel expense, discounts and other necessary charges, amounted to $15,855.56, a little more than half of the amount of commissions earned by the Bureau.

The total amount of advertising secured for the journals served by the Bureau was greater than in any previous year, and monies received for advertising space in these journals were transmitted directly to the editors or managers of these publications.

American Medical Directory

The Twelfth Edition of the American Medical Directory has recently come from the press. The compilation of material for this edition of the Directory has been in process continuously since the previous edition was issued. Certain improvements have been effected which should add materially to the value of this publication. The sales of the new edition have been fairly satisfactory.

Order and Mailing Departments

More than 60,000 individual orders for printed matter and other material were handled by the Order Department during

the year 1930. These included orders for pamphlets, posters, charts and books from the Association Press.

The Mailing Department handled 5,400 bags of second, third and fourth class and miscellaneous mail. During the year, 1,122,370 pieces of first class mail were dispatched, and 531,924 pieces of third class mail were sent out.

The Council on Pharmacy and Chemistry

In February, 1931, the Council completed its twenty-fifth year of active service carried on in the interest of rational therapy.

The Council was created primarily for the purpose of gathering and disseminating information that would protect the medical profession in the prescribing of proprietary medicinal articles. In pursuance of this object the Council determined on the publication of a book which should list and describe those products which in the opinion of the Council merited consideration by the medical profession. To guide in this selection, the Council adopted rules the application of which should protect the medical profession and the public against fraud, undesirable secrecy and objectionable advertising in connection with proprietary medicinal articles.

The guiding rules that were drawn up at the inception of the Council under the guidance of its patron and first chairman, Dr. George H. Simmons, have remained practically as first formulated, being modified only as the changing conditions required and as a more advanced position of medicine permitted. These rules have served as the framework on which other bodies that have undertaken work similar to that of the Council have built, and they are a lasting tribute to the breadth of vision of the Council's founder.

The need of a critical examination of the proprietary medicinal preparations which before the creation of the Council were being offered to physicians is well shown by an examination of a copy of THE JOURNAL issued in 1900. In the advertising pages are found advertisements for seventy-two proprietary preparations. Of these, only nine were subsequently admitted to New and Nonofficial Remedies; and of these nine, not a single one is now included in the book.

That the investigations of the Council are still required as a means of protecting the medical profession is shown by an examination of a class of medical journals that appear to grant advertising space to all who seek it and without regard to the readers in whose interest the publication should be conducted. The need is further shown by an examination of the catalogues of certain manufacturers of pharmaceutic products, in which is to be found a large assortment of specialties, usually of great complexity, with catchy names as the chief sales appeal. In the cases of products given nation wide publicity, the vigilant eye of the Council has brought it about that few firms care to invest the money required for an extensive sales campaign unless the product has some noteworthy properties and presumable merit. Thus it has come about that the Council is consulted with regard to many preparations before they are even placed on the market. And thus, happily also, the number of products that are annually offered to the profession for clinical use has steadily decreased during the years of the Council's existence.

An examination of successive issues of New and Nonofficial Remedies shows that the number of new articles admitted during a given year closely approaches the number of products that are omitted each year—omitted either because the proprietor could not do a profitable business if he restricted his claims to those permitted by the Council or else because continued experience had not fulfilled the expectations that seemed justified when the product was introduced. Many such products have been omitted from the book by the Council or taken from the market by the manufacturer.

In many cases, widespread acceptance of the claimed virtues of a product has led to its recognition by the Council because of many favorable reports from men of training and recognized authority. The course of pertussis bacillus vaccine is an excellent illustration of this. In 1914 the Council accepted pertussis vaccine for New and Nonofficial Remedies on the basis of what then seemed satisfactory evidence, stating, however, that some authorities held them unsatisfactory. With the subsequent popularity of vaccine therapy in general, pertussis vaccine was extensively used; but controlled clinical reports of its use did not appear. The Council revised its statement on pertussis vaccine to indicate a more skeptical attitude and attempted to get satisfactory confirmatory evidence for its value. Such evidence has not become available, and with the close of 1930 pertussis vaccines were omitted from New and Nonofficial Remedies.

The general adoption of a more conservative and scientific attitude toward new drugs has revolutionized their introduction. Even when a new drug or new therapy is the result of noncommercial investigation, the cost of extended clinical trial such as is now demanded and of production on a manufacturing scale is practically prohibitive for the noncommercial investigator. This means that the investigator must seek the assistance of a commercial firm. This firm in turn must have some assurance that the money invested in the introduction and trial campaign of the preparation shall in some way bring returns to warrant the expenditure involved. This has brought it about that those responsible for a new drug have assigned their rights in the discovery to some body—often created by the university where the work was done. This body has for its object the assurance of a fair return to the manufacturer without placing an unfair tax on the public through cost of the material and without the granting of a permanent monopoly. Such control has been exercised in the introduction of insulin, the liver extract developed by Minot, Murphy and Cohen at Harvard, the viosterol preparations of Steenbock, the theelin of Doisy and a new bismuth product of P. J. Hanzlik. Though the governing bodies have not made compliance with the principle of the Council governing recognition of a drug a condition for the granting of a license, in each case the Council has been consulted and its principles have been given serious consideration in the issuance of licenses.

While the establishment of governing bodies for the supervision of the introduction of new remedies is on the whole in the interest of medicine and the public, it has of course been seized upon as a means of humbugging the public, and many a crude commercial proposition has been dignified by the use of the word "Foundation," "Institute" or other high sounding word in the name of the body that exploits it. Thus there is "The Tomarkin Foundation," which utilizes the name of one Leandro Tomarkin, who claims to be a graduate of the University of Berne. The "Foundation" is used by the American Bio-Chemical Laboratories, Inc., for the exploitation, among other things, of "Disulphamin." The advertising gives a string of essentially meaningless pseudoscientific terms to describe the product, which thus far has not been presented for unbiased investigation by the Council. The reason for its nonpresentation is presumably not far to find. The audacity of the promoters is further shown by a letter from a professor of materia medica in a great foreign university stating that he had been invited by "the Tomarkin Foundation" to deliver a lecture at Locarno, "all expenses paid." Disclaiming any intention of accepting the invitation, the professor adds, "they have roped in most of the best known names in chemotherapy in Europe." Another example of this sort of thing is the "Radium Research Foundation" of Los Angeles, which exploits the discredited "Oxycatalyst" of Armstrong.

The critical and conservative attitude of the Council and of the present-day medical profession has been responsible for the relegation of a large number of proprietaries to the therapeutic scrap heap. This has been a necessary accompaniment of advance in rational therapeutics, regardless of the imposing estimates put forth by introducers of the products in question or by others who, though not commercially interested, are nevertheless affected by the spell of enthusiasm created by the interested firms. However, excessive conservatism, a too strict adherence to the old established drugs, would retard progress. Among the approximately 350 preparations described in the eighth edition of Useful Drugs as essential to a selected list of really important drugs, a considerable number were introduced as proprietaries; and it is the duty of all to be fully informed in regard to new medicaments, the development and proper evaluation of which is an essential to medical progress.

In judging the therapeutic merit or usefulness of a product, the Council must depend on the published evidence—chiefly clinical reports published by physicians in medical journals. To a limited extent it is possible for the Council to obtain independent evidence, as was done in the case of the rather

extensively used hypophosphites (exploited chiefly in the form of a most complex compound syrup of hypophosphite), the glycerophosphates and the so-called natural salicylates prepared from oil of wintergreen or oil of birch and claimed to be superior to those obtained synthetically from phenol. In the case of the hypophosphites a critical examination of the evidence and confirmatory experimental work sponsored by the Council demonstrated that these salts did not furnish the readily assimilated phosphorus that was supposed to rejuvenate nerve tissue but that they were excreted unchanged. This led to the disappearance of this class of preparations from the Pharmacopeia and from the display advertising, if not from the specialty list, of pharmaceutic firms. The investigations made for the Council demonstrated that glycerophosphates were assimilated the same as inorganic phosphates and exploded the claims of special tonic action on nerves asserted in the proprietary propaganda. Thus our materia medica was simplified by the general abandonment of this class of products. In the case of the salicylates an extensive review of the literature, an exhaustive examination in the Association's chemical laboratory, a pharmacologic study and clinical trials by the now generally recognized "blind test" of Sollmann were necessary before physicians ceased prescribing the "natural" variety at many times the cost of the synthetic form as urged by proprietary propaganda. With the passage of time and the more thorough training of physicians, insufficient clinical trials are no longer accepted by the profession as worth-while evidence, and manufacturers have recognized the need of more thorough study before placing products on the market. In line with this tendency, the Council has been able to set higher requirements for new therapeutic agents, and it may be confidently anticipated that the newer drugs will more generally be found to come up to the first expectations of their introducers.

While the Council was formed primarily to gather and disseminate information that will protect the medical profession in the prescribing of proprietary medicinal articles, it was obvious from the beginning that little would be accomplished unless the profession itself became more critical or better informed in regard to the prescribing of all drugs. It was the lack of adequate training in materia medica, pharmacology and therapeutics that had enabled the manufacturer and his "detail" men to become the advisers and confidants of a large proportion of physicians. As its share in the improvement of medical education the Council assumed the task of informing the medical profession in subjects that would lead to a more critical use of drugs. Since the Pharmacopeia contained a needlessly large number of drugs and preparations, and the National Formulary, though containing some desirable formulas, was made up for a large part of preparations that are superfluous if not unscientific, the Council issued the Epitome of the U. S. Pharmacopeia and National Formulary, which contained a brief but pertinent discussion of the usefulness of each drug. It being further evident that the large number of drugs in general use made it impossible for teachers and writers of textbooks to give adequate information and instruction regarding them, the Council held it desirable that physicians should have a better knowledge concerning a few of the more useful drugs rather than a smattering about many. The Council therefore issued Useful Drugs, which is designed to supply a selected materia medica and to serve as a basis for the teaching of materia medica and therapeutics and for examinations on this subject by state licensing boards. A new edition of this work, the eighth, has appeared during the past year.

Although the instruction in medical schools concerning the subjects that have to do with the use of drugs has immensely improved during recent years, many hospitals still countenance unscientific practices in the use of drugs, permitting the use of proprietary drugs when these are not indicated, or the prescribing of complex mixtures that are the heritage of bygone days. It is thus that the young medical graduate during his internship in a hospital is by the example of his superiors led to discard the valuable instruction that he has received at the hands of his teachers in pharmacology, materia medica and therapeutics, and to adopt the unscientific practices countenanced by the hospital that is supposed to round out his medical training. At the 1930 annual conference of the Council on Medical Education and Hospitals, consideration of the prescribing of drugs in hospitals was given a prominent place, and three members of the Council presented papers on this subject. As a result of this conference it was decided to issue an interns' handbook which, in addition to other subjects concerning the management and conduct of a hospital, should contain a chapter concerning the use of drugs. The handbook is to be issued by the Council on Medical Education and Hospitals with the cooperation of the Council on Pharmacy and Chemistry, and the latter body is to provide the chapter on drugs.

As a result of the broadening policy of the Council, this body is now generally recognized as eminently qualified to deal with all questions that concern the use of drugs. During the past year the Council has considered the dangers of the uncontrolled use of drugs by the laity and the feasibility of legislation that shall protect the public from the dangers of habit-forming drugs such as acetanilid and barbital.

COUNCIL MEMBERS AND CONSULTANTS

Selected for their wide knowledge in pharmacy, chemistry, pharmacology, physiology and medicine, the members of the Council, many of whom are busy heads of hospitals, medical colleges or university departments, give their services without remuneration, taking time from their already overcrowded days to work for the cause of rational and scientific medicine. The hearty thanks and appreciation of the medical profession are due to the Council as a whole and to the members as individuals for the work that has been done and is being carried on. The Council feels free as occasion arises to obtain the advice and assistance of men trained in special fields. The response to such requests has always been gratifyingly prompt and full, thus furnishing another example of the unselfishness and devotion of scientists and clinicians to a worthy cause. This year the Council has received valuable advice and assistance from Drs. R. W. Bell, Francis G. Blake, W. F. Braasch, Hermon C. Bumpus, Jean V. Cooke, V. C. David, A. U. Desjardins, E. A. Doisy, J. R. Driver, Robert T. Frank, Harry Gold, A. A. Goldsmith, Samuel M. Gordon, Evarts A. Graham, P. J. Hanzlik, H. F. Helmholz, R. H. Herbst, Alfred F. Hess, W. H. Howell, Claude S. Hudson, Raphael Isaacs, H. L. Kretschmer, Esmond R. Long, W. T. Longcope, A. B. Luckhardt, John S. Lundy, Erwin E. Nelson, John F. Norton, Philip A. Shaffer, Frank Smithies, C. C. Sturgis, James D. Trask and Soma Weiss.

THE THERAPEUTIC RESEARCH COMMITTEE

Supported by an annual appropriation from the Board of Trustees, the Therapeutic Research Committee has for its object the attraction of workers to a relatively large number of investigations in therapeutic problems by giving aid and encouragement to such work wherever it seems needed. The aim has been to make relatively small grants for the purchase of materials, animals, and the like, to as large a number of workers as possible; but in every case the grant has been large enough to be of real assistance as supplemental to other resources of the investigators.

During the year 1930 the committee has distributed $3,000 among ten such grants. A detailed list of these grants will be found in the appendix to this report.

THE COMMITTEE ON FOODS

The chairman of the committee submits the following report:

The personnel of the committee has changed during the year by the resignation of H. C. Sherman, Ph.D., effective May 1, and W. McKim Marriott, M.D., effective December 31, and the appointments of E. M. Bailey, Ph.D., chemist in charge, Analytical Laboratory, Connecticut Agricultural Experimental Station, Julius H. Hess, M.D., professor of pediatrics, University of Illinois School of Medicine, and Grover Francis Powers, M.D., professor of pediatrics, Yale University. Raymond Hertwig, B.S., formerly director of research and quality control of the Hecker H-O Companies of Buffalo, N. Y., and Ayr, Canada, and before that chemist in charge of the Cereal and Baking Research Unit of the Food Control Laboratories of the U. S. Bureau of Chemistry, was appointed secretary, beginning July 1.

The work of the committee and that devolving on the office of the secretary has increased greatly with each successive month. The following tabulation of submitted and "accepted" foods is illustrative of the accomplishments of this, virtually the committee's first, working year:

Submitted foods		297
Accepted foods		65
Foods tentatively rejected:		
First half year	53	
Second half year	54	
Foods submitted without complete information (The remaining foods are under consideration.)		104
Advertising campaigns		8
Baking powders		3
Cacao products		15
Canned fruits		30
Canned vegetables		48
Cereal foods		98
Alimentary pastes	10	
Breads	13	
Breakfast foods	57	
Self rising flours	2	
Wafers	9	
Flours	7	
Coffee and coffee products		15
Extracts		3
Fruit juices		10
Mixed fruit juice	1	
Apple juice	1	
Grapefruit juice	1	
Orange juice	1	
Tomato juices	6	
Gelatins		10
Milk and milk products		45
Butter	1	
Evaporated milks	6	
Dried milks	3	
Milk	1	
Reconstructed milk products for infants	34	
Oils and fats		1
Peanut butters		4
Salad dressings		4
Salad dressing	1	
Mayonnaise	2	
Thousand Island	1	
Salts		2
Sea foods		1
Spices		5
Sugar products		15
Table waters		3
Tea		1

The rules and regulations originally adopted by the Council on Pharmacy and Chemistry for the operation of the committee have been revised, amended and considerably expanded in detail. The latest edition was issued in pamphlet form in November. Subsequent amendments by addition will appear in the next, 1931, edition.

The revised rules extend the scope of the considerations of the committee to all foods merchandised under a label. Foods without specific "health" or nutritional claims are no longer "exempted" but given the full privileges of "accepted foods." This action was necessary as "accepted" foods by virtue of the "seal" have unjustifiable merchandizing advantages over equally meritorious exempted foods (foods without "health" or nutritional claims) not previously privileged to display the seal. Foods rejected on the first consideration are given the opportunity of reconsideration after meeting the objections of the committee. This places the work of the committee essentially on a constructive basis. "Rejection" is reserved as a measure of last resort to penalize those who wilfully violate the rules.

The revised rules are exacting in the comprehensive information required for accepted foods. All ingredients, chemical composition to describe the product chemically, preparation of raw materials, description of all steps of manufacture, and extent of sales are among the prerequisites to consideration. Biologic and bacteriologic data are called for in support of any such respective claims. Evidence to justify any unusual claim of a general nature is also required. Those foods eligible for acceptance are carefully studied for violations of the federal or state food statutes pertaining to misbranding or adulteration.

The elaborate information demanded for accepted foods is to protect properly the significance of the seal of the committee and maintain it as the most worthy and respected emblem of its kind. In this connection, it is intended to have the descriptive records of the committee for accepted foods so complete in all essential information and data that any promotion advertising claims promulgated to the public by the respective manufacturers can be correctly appraised and judged by mere reference to the appropriate records.

The committee has considered a number of general questions pertinent to its work and rendered the following decisions as affecting accepted foods:

1. No objection is taken to the presence of added sulphur dioxide in canned infant foods if the quantity is not excessive and proper declaration is made on the label.

2. The presence of added sodium chloride in canned infant and invalid foods must be declared on the label.

3. The terms "sterile" and "sterilized" cannot be used with accepted foods unless they are in fact biologically sterile.

4. The healthfulness of cacao products for children because of the theobromine and caffein content has been under discussion, but a decision has not yet been reached. The decision will affect special health claims for children now being made for this class of foods.

With only one exception, all foods submitted in the second half of the year and considered by the committee were unacceptable on one or more counts. The commonest infraction is incorrect or false claims of more or less serious moment on the label or in advertisements. A large proportion are in violation of the food laws by misbranding. Two foods were adulterated as containing nonfood substances—liquid petrolatum and castile soap. The complete advertising portfolios of a considerable number were practically unacceptable in total. A bread product was given an entirely new trade-name to meet the committee requirements. A honey-peanut food also was renamed. One of the chief cereals on the market will have to be renamed because of its deceptive name. Another accepted national cereal brand must be relabeled or be rejected. The labels of two other well known cereals are being wholly revised.

The foregoing conditions are well representative of the average foods coming under consideration. It is pleasing to note the willingness of most manufacturers to accede to the requirements of the committee and cooperate in its endeavors.

The first year of operation of the committee must be viewed as one of experiment, organization and preparation for the future work. The daily inquiries from advertising agencies and manufacturers of every variety of food for copies of the rules and regulations and from physicians and citizens of all stations of society for information on accepted and unacceptable foods indicate the present recognition of the value of the work of the committee and presages its future potentialities.

The Committee on Foods has undertaken an unprecedented task and far-reaching service in the interests of the health and welfare of the public—the proper education and guidance of the people and physicians on matters of diet, food values and nutrition through the medium of commercial food advertising. No other organization outside of the federal government has the confidence and support of the public to such degree as to quality for the successful accomplishment of the work undertaken. The influence of the committee inaugurates a new era in food advertising.

The Chemical Laboratory

The American Medical Association Chemical Laboratory was established in the fall of 1906. It has functioned continuously during the past quarter century. The reason for the establishment of the Laboratory was primarily that the Council on Pharmacy and Chemistry found it difficult to secure from outside sources such help as it needed in checking the composition and properties of the newer drugs under investigation, as well as in watching over market supplies of nonofficial preparations. As years passed, the scope of the Laboratory was extended and its services requisitioned by THE JOURNAL and the Association in many ways. The Laboratory is often called on for information as to the character and composition of nostrums and so-called patent medicines. The Laboratory has also attempted to serve the members of the Association as a storehouse of chemical and pharmaceutic information.

The Laboratory staff now consists of a full time director and three chemists, all Ph.D.'s, and necessary assistants. Even with the enlarged facilities provided within the last few years it can take up for investigation only a part of the problems that are called to its attention.

During the past twenty-five years the Laboratory has assiduously worked with the Council on the evaluation of new drugs

and has contributed data showing the unreliability of drugs used without proper knowledge of their therapeutic effects. The Laboratory has pointed out repeatedly the necessity of the identification of drugs used and has aided the Council in cooperative investigations on drug therapy. It has contributed its efforts toward rational prescribing and has aided the Bureau of Investigation in supplying information on the analysis of "patent medicines."

Because of the thoroughness of its work, the Laboratory enjoys the confidence of pharmaceutic chemists throughout the United States, even though the respective attitudes toward various proprietary matters may differ; but, more important, it has the confidence of the physicians in America, judging from the letters received and requests for chemical information.

During the past year the Laboratory has investigated for the Council on Pharmacy and Chemistry a number of new substances or new modifications of old drugs and new dosage forms. The barbital situation still demands attention. Four different derivatives of barbital have been examined this year, each a product of a different manufacturer. The Laboratory has examined and established standards for the following barbital hypnotics: Veronal, Veronal Sodium, Luminal, Luminal Sodium, and various brands of the nonproprietary forms of these, known respectively as Barbital and Phenobarbital, Amytal and Amytal-Sodium, Dial, Ipral, Neonal, two different brands of the sodium salt of methylbutyl-ethyl-barbituric acid, Noctal, Pernocton, Phanodorn and Sandoptal. In a number of cases the original products were not found satisfactory and the manufacturers were asked to do further work before acceptance was granted. In two other cases the products have not been found acceptable by the Council.

The Laboratory has evaluated standards for two medicinal dyes of a complex chemical nature. As has been emphasized in previous reports, much work has been done by the Laboratory on ephedrine, yet the product is one which requires such careful checking that the Laboratory has felt that it could not lessen its watchfulness over the dosage forms of this substance accepted by the Council. Bismuth preparations still demand the attention of the Laboratory, and four were investigated during 1930. Among the problems that have received the attention of the Laboratory are: a study of several chemical proprietary reagents, an investigation of Iopax (Uroselectan), of such substances as certain iodoxybenzoates, procaine borate, various brands and dosage forms of dextrose, epinephrine base, Nupercaine, Iodobor, sodium thiosulphate, Triphal, Muriatogen, Cinchophen, Chiniofon-Searle, Synephrine Tartrate, and a large number of others. The amount of work done for the Council in 1930 was larger than that in any previous year.

Work for the Bureau of Investigation proceeded along the lines recorded heretofore. Reports were made on such products as Lukatate, F-100, Tebex, several "cancer remedies," Renton's Rheumatic Tablets, Royal Hair Restorer, Antimole, Van Ard, Liquid Arvon, Depilatories, including one containing thallium acetate, and many preliminary examinations were made for the records of the Bureau.

The Laboratory continues to carry on investigations of an independent nature which deal with its work and will aid the medical profession in a better understanding of the newer drugs. At present an extensive study is being made of the keeping qualities of ephedrine inhalant under conditions such as might be found in the average clinic or home where this agent is prescribed. The Laboratory is also conducting an investigation on the better methods of comparative standardization of the barbitals, and has cooperated with Dr. S. M. Gordon in the publication of a report on Calcium Gluconate. It has published in the "Laboratory Department" articles on some of its minor investigations. A number of topics are under consideration, the announcement of which will be made in next year's report.

Correspondence still increases as members and Fellows make use of the files of the Council on Pharmacy and Chemistry and the Chemical Laboratory. Problems of chemical interest to physicians are frequently referred to the Director and considerable time is devoted to furthering the work of other departments. Members of the staff have taken part in various national and state meetings and have cooperated with many of the working committees of the American Medical Association.

Council on Physical Therapy

The Council on Physical Therapy has actively prosecuted its work designed to place physical therapy on a more rational and substantial basis. Through the columns of THE JOURNAL the educational activities of the Council have been continued, apparently with good results. There has been appreciable improvement in the character of advertising of certain devices and apparatus, in that claims and statements made are in many instances more modest and nearer the truth than formerly. There is, however, room for even greater improvement.

EDUCATIONAL ACTIVITIES

The special articles prepared by members of the Council and published in THE JOURNAL have been favorably received as authoritative statements. Reprints of these articles have been rather widely distributed to inquiring physicians. In all its publications the Council endeavors to point out the importance of physical therapy as an adjunct in treatment rather than as an all-sufficient agency. The articles that have been published in THE JOURNAL are as follows:

Education in Physical Therapy. Outline of a course in physical therapy.

Explosion Hazards in Anesthesia, by H. B. Williams, M.D.

List of Definitions (second half).

Massage, by Ralph Pemberton, M.D.; J. S. Coulter, M.D., and Harry E. Mock, M.D.

Rehabilitation of the Disabled, by Harry E. Mock, M.D.

Sources of Radiation and Their Physical Characteristics, by W. W. Coblentz, Ph.D.

Glasses for Protecting the Eye from Glare, by W. W. Coblentz, Ph.D.

Ultraviolet Transmitting Glasses: Specifications of Minimum Transmission, by W. W. Coblentz, Ph.D.

Technic of Therapeutic Exercise, by John S. Coulter, M.D., and C. O. Molander, M.D.

EXPOSURE OF FRAUDULENT DEVICES

Many machines are constantly being manufactured and sold to the physician and the public, involving the use of various physical agents such as radio waves, magnetism, radioactivity and massage. In too many instances the claims made for them are not in keeping with known scientific facts. The Council on Physical Therapy investigates therapeutic appliances having a semblance of practicability and does not hesitate to expose fraudulent devices. Cordial cooperation is maintained with the Bureau of Investigation and with Better Business bureaus in various cities, with the result that much advertising of a questionable nature has been rejected by reputable magazines.

CONSIDERATION OF APPARATUS

Manufacturers of apparatus and machines are submitting a constantly growing number of their products for consideration. Up to this time the number definitely accepted or rejected is small as compared to the total number submitted for consideration. In some instances it has been necessary, after consideration of evidence submitted, to withhold action and to await the results of experience and usage in determining the practicability and usefulness of devices offered for examination. This has been especially true of certain mechanical devices known as massaging and exercising machines. Further investigation is being made on ultraviolet ray devices and exercising machines, and it is hoped that useful information about them will soon be available. The Council adheres to the policy of basing its official statements on convincing scientific evidence. Therefore, it earnestly encourages investigations in various fields of physical therapy and has in the past year awarded five monetary grants to be used in promoting research.

MEMBERS OF THE COUNCIL

During the year Dr. J. S. Coulter, Chicago, Dr. R. B. Dillehunt, Portland, Ore., and Dr. R. B. Osgood, Boston, were appointed members of the Council. Dr. Coulter succeeded the late Dr. Frank B. Granger, Dr. Osgood succeeded Dr. W. T. Bovie, and Dr. Dillehunt was selected as an additional member. Later, however, Dr. Dillehunt resigned because he found it difficult to attend meetings, and Dr. Frederick J. Gaenslen, Milwaukee, was appointed to fill the vacancy. Mr. H. J. Holmquest, first secretary of the Council, resigned in September, 1930, and Mr. H. A. Carter, Chicago, was appointed as his successor.

Bureau of Health and Public Instruction

CORRESPONDENCE

More than 6,000 letters were written and mailed to correspondents of the Bureau of Health and Public Instruction in 1930. A little more than half of these were in reply to inquiries addressed to HYGEIA. While all questions were answered direct to the inquirers, more than 200 were printed in HYGEIA with answers, many of which were prepared by authorities in various fields of medicine.

RADIO HEALTH TALKS

Radio health talks have been continued over Station WBBM. Three times a week a fifteen minute talk has been broadcast from the headquarters of the American Medical Association, and during the first part of the year a five minute talk daily over the Columbia Broadcasting System. The total number of fifteen minute talks broadcast from headquarters was 237. The five minute health talks, given the first part of the year daily, later three times a week, numbered 264. The total number of talks delivered, therefore, was 501. In addition, 46 "Health Hints" were furnished for broadcasting by Station WBBM. Of the talks made from headquarters, 61 of them have now been mimeographed and are available for use by county medical societies. These have been in some demand for platform talks and for newspaper items. A complete set of these radio talks has been attractively bound for permanent preservation.

A number of county societies were requested a year and a half ago to arrange for radio health talks and responded, but within the last year many of the independent stations have been covered by the chain programs, so that there is less opportunity for the county medical societies to do their own broadcasting than formerly. Approximately ten county medical societies are now using the radio for health talks and most of these have been supplied with material from the files of this bureau.

MEETINGS

The following meetings have been attended by the director and assistant director of the Bureau, and eighteen addresses were made at these meetings:

Joint Committee on Health Problems, Atlantic City.
School of Domestic Arts and Science, Chicago.
Oklahoma Congress of Parents and Teachers, Oklahoma City.
State Health Commissioners' Conference, Jefferson City, Mo.
American Legion, Racine, Wis.
Indiana Medical School, Indianapolis.
Y. W. C. A. Camp, Orchard Beach, Mich.
Methodist Church, Detroit.
Kiwanis Club, Detroit.
Lions Club, Detroit.
National Education Association, Columbus, Ohio.
Nebraska State Medical Association, Lincoln.
Senior Nurses, Mercy Hospital, Chicago.
Senior Nurses, Grant Hospital, Chicago.
Senior Nurses, Lewis Institute, Chicago.
American Public Health Association, Fort Worth.
Association of Railway Chief Surgeons, Chicago.
American Association of Railway Surgeons, Chicago.
Saginaw County Medical Society, Saginaw, Mich.
Vanderburgh County Medical Society, Evansville, Ind.
Joint Committee on Health Problems, New York.
North Shore and North Side Branches of the Chicago Medical Society, Chicago.

EXHIBITS

During the year exhibits of material prepared by the Bureau have been made as follows,

Joint Committee on Health Problems, Atlantic City, N. J.
Illinois State Medical Society, Joliet.
American Public Health Association, Fort Worth, Texas.
Health Show, Chicago.
Indiana Tuberculosis Association, Kentland, Ind.
California Medical Association, San Francisco.
State Convention of Parent-Teacher Association, Greensboro, N. C.
Athletic Association of Wesleyan College, Macon, Ga.
Health Show of Norfolk and Western Railway Company, Portsmouth, Ohio.
State Normal School, Bridgewater, Conn.

A feature of the exhibit of this bureau which attracted considerable attention at the meeting of the Association in Detroit was the set of six colored posters under the general title "The Doctor Prevents Disease." Each of the posters illustrated one method by which the doctor seeks to prevent disease, such as "by health talks to lay audiences," "by advising his home-town editor about health items for his paper," and "by periodic health examinations."

DISTRIBUTION OF PRINTED MATERIAL

The pamphlets and posters of the Bureau have been distributed during the year as follows:

Cancer pamphlets	2,633
Vision pamphlets	1,691
Research pamphlets	437
Sex education pamphlets	10,728
Score cards, anthropometric tablets and record sheets	6,421
Baby welfare pamphlets	7,130
Baby welfare posters	570
Health and education pamphlets	1,125
Public health pamphlets (including HYGEIA reprints)	13,302
Health poster booklet	3,400
Health examination blanks	71,400
Health examination manual	1,998
What's a Health Examination, Anyway?	1,633
Communicable disease pamphlets	1,432
Health education program	827
Total number of units	124,727

NEW MATERIAL

New material, for the most part reprints from HYGEIA, has been added to the list of pamphlets available as shown in the following list:

Reducing Diet, by Beams and Geraghty.
Who Says So — Health Educators or Health Racketeers? by Bauer.
Unheeded Hazards of the Home, by Graves.
Fight Cancer with Knowledge, by Hektoen.
Arthritis or Rheumatism? by Pemberton.
Taking the Child to the Dentist, by Gardner.
Why There is a Shortage of Country Doctors, by Colwell.
Restless Sleepers Get Restful Sleep.
Warm Water Healing, by Solenberger.

THE MEDICAL PROFESSION AND HEALTH EDUCATION

Repeated comments and complaints are received at headquarters of the enormous amount of misinformation that is being given to the public by quacks, faddists and similar agencies. The radio, newspapers and magazines, personal letters—all are used for this purpose. The question is asked, "How can we suppress or combat these activities?" It is not possible to suppress them. The only feasible way to meet them is for the medical profession, individually to patients and collectively through medical societies to the public, to disseminate as widely as possible truthful, authoritative information about medical and health matters. To this end the use of such literature as the American Medical Association publishes, including HYGEIA and the numerous pamphlets, is a helpful method. The Bureau has arranged to place in the libraries of the recognized medical schools of the United States a complete set of of its publications for the nonmedical reader. In this movement the Bureau of Investigation will cooperate. These sets will be neatly bound in loose-leaf covers. The deans of these schools have agreed to see that this material is placed in the libraries, where it will be brought to the attention of the students by the librarians and by members of the faculty. It is believed that directing the attention of the young men and women to this important matter while they are preparing themselves for the practice of medicine will help materially to enlist their interest in this phase of preventive medicine.

A great deal of instruction about medical and health matters is being given in schools and colleges of various types and grades. The growth of interest in health matters on the part of the educational world is one of the most striking and encouraging developments of recent years. Both students and teachers, in considerable numbers, apply to this association for material to be used in the preparation of health talks, debates, essays and the like, and the Bureau has tried to meet this demand so far as possible.

PERIODIC HEALTH EXAMINATIONS

The demand for copies of the blanks used in periodic examinations of apparently healthy persons shows a slight decrease over that of last year.

It is desirable that the Bureau know as definitely as possible what is being done in the various parts of the country in the promotion of this activity, as well as in other activities looking

to the health education of the public, and for that reason a questionnaire, similar to one sent out in 1924, has been sent to the secretary of each of the county medical societies. The response to the questionnaire of six years ago was highly satisfactory and brought information concerning the activities of county medical societies in public health which enabled the Bureau to plan a program of action.

The periodic examination blank and manual seem to be satisfactory. Although there is sent out with each supply of blanks a slip inviting comment and criticism, and these have been received by hundreds of physicians, there have been very few suggestions of change.

SURVEYS

The associate director of the Bureau has continued to devote a large part of his time to the gathering and compilation of data about the cost and income from medical practice. Studies in reference to the cost of medical education have been completed and the tabulated material has gone to press. Reports on the income from medical practice are about completed and will be ready for publication shortly. There still remains to be compiled data about capital investment of the physician.

COOPERATION WITH OTHER AGENCIES

The Joint Committee on Health Problems in Education held an important meeting in Atlantic City in February, 1930, at which there were present as representatives of the American Medical Association Dr. Orlando H. Petty, Dr. R. G. Leland and Dr. John M. Dodson. It was decided to cease publication of the set of health charts originally furnished by Dr. Thomas D. Wood, and to prepare a new set of educational posters especially adapted for use in the schoolroom. A committee was appointed to consider this matter, and Dr. Leland has gathered much helpful material embodying suggestions for topics to be covered by the first set of posters.

The blank for use by teachers and school nurses in the physical inspection of schoolchildren was also approved and is ready for printing. To accompany this blank there will be issued a booklet of instructions for its use. There is in preparation also a blank to be used by the family physician or general practitioner in the examination of schoolchildren to be reported to the school when the pupils enter and at suitable intervals thereafter.

The Bureau has continued to cooperate with the National Congress of Parents and Teachers in a variety of ways. Request has again been made to this association for the blanks to be used in the summer round-up campaign for 1931. Last year 200,000 blanks were printed; this year there will be added from 300,000 to 350,000.

The officers of the congress have attempted to plan the summer round-up campaign so as to make it as acceptable as possible to the medical profession. In the notice sent out to all the local parent-teacher associations last spring, the fact was emphasized that the summer round-up is an educational campaign. The following paragraph appears on page 5 of the circular entitled "The Summer Round-Up of the Children: A Health Project of the National Congress of Parents and Teachers:"

> Because of the unique and strategic position held by the 20,000 local units of the National Congress, working in and through the schools, action is secured by the people instead of *for* the people—a course which is essential if parents are to be educated to the necessity for periodic examinations from birth onward as the best possible investment in the health and welfare of their children. When parents are so educated, they will have their children examined at regular intervals by the family physician and dentist and will be willing to pay an adequate fee for such service.

DANGER OF TOYS

There was referred to this bureau by your board an action taken in the House of Delegates at the American Medical Association meeting in Detroit, having to do with loose, detachable small parts of toys, with the suggestion that the attention of toy manufacturers be called to this important matter. A letter was prepared and sent to the important toy manufacturers of the United States, numbering about 400, calling attention to the importance of this matter and asking for their cooperation in minimizing this menace to infants and young children. Responses received have been encouraging.

Bureau of Legal Medicine and Legislation

FEDERAL LEGISLATION

A summary of legislation in the Seventy-First Congress, of interest to physicians, was published in the *American Medical Association Bulletin*, November, 1930. This covered the period up to July 3, 1930, when the second session adjourned. No legislation of interest was enacted during the third session, before the close of the year.

The tariff act which became a law during the year increased somewhat the duty on surgical instruments and on other devices essential to the practice of medicine, but the increases were less than were originally proposed. An act was passed to coordinate better the public health activities of the federal government and to improve the organization of the Public Health Service. By another act, a National Institute of Health was evolved out of the Hygienic Laboratory of the Public Health Service. The federal narcotic control service was reorganized as a Bureau of Narcotics in the Treasury Department and, at the suggestion of the American Medical Association, provision was made for cooperation between the federal government and the several states for the enforcement of state narcotic laws. The method of enforcing the National Prohibition Act was reorganized so as to bring the execution and enforcement of the act under the joint control of the Secretary of the Treasury and the Attorney General. Appropriations were made to improve and enlarge various federal hospitals for the treatment of veterans, but as the appropriation of $15,950,000 was authorized, Dec. 23, 1929, for additional hospital, domiciliary and outpatient dispensary facilities for veterans, no general hospital construction bill was passed.[1] The World War Veterans' Act, 1924, as amended, was further amended in several respects, provision being made for giving "due regard" to lay and other evidence not of a medical nature, in the adjudication of claims.

Several bills to provide subsidies to enable the federal government to control the activities of the several states in the fields of maternal, infant and rural hygiene were introduced. One, S. 255, introduced by Senator Jones of Washington, providing in substance for the revivification and perpetuation of the original Sheppard-Towner Maternity and Infancy Act, was favorably reported by Senator Jones,[2] from the Committee on Commerce, without a hearing. Another, H. R. 12995, introduced by Representative Cooper of Ohio, authorized federal subsidies not only for maternal and infant hygiene but also for rural hygiene.[2] Bills of similar purport were introduced by Representative Goodwin of Minnesota, by Representative Bankhead of Alabama, by Senator Capper of Kansas and by Senator Robsion of Kentucky. Senators Copeland of New York and Hatfield of West Virginia introduced several bills authorizing federal subsidies that would enable the federal government to supervise and control the activities of the several states in the care, treatment and rehabilitation of crippled persons under 21 years old, and companion bills were introduced in the House. All the bills referred to, except S. 255, remained in committee at the close of the year.

Clinical Thermometers.—A bill to regulate the traffic in clinical thermometers was introduced by Representative Bloom, New York. It died in the House Committee on Interstate and Foreign Commerce, on adjournment of the Congress.

Narcotic Drugs.—Sixteen bills and resolutions were introduced to prevent the abuse of narcotic drugs. Only one of these that was of immediate interest to physicians was enacted, the bill to reorganize the federal narcotic service. Other bills provided for the federal control of the medical use of narcotic drugs, to the attempted exclusion of state authority; for punishing the forgery, counterfeiting or unauthorized alteration of

1. On March 4, 1931, an act was passed authorizing an appropriation of $20,877,000, to provide for the construction of hospitals and homes, and for the enlargement of existing hospitals and homes, for veterans entitled to such accommodations under the World War Veterans' Act, 1924, and under other acts.

2. S. 255 was passed by the Senate, Jan. 10, 1931. The House Committee on Interstate and Foreign Commerce, after modifying H. R. 12995 so as to insure the retention of the supervision and control of maternal and infant hygiene under the Children's Bureau and to prevent its passing under the supervision and control of the Public Health Service, substituted it for S. 255, which had previously been passed by the Senate, and recommended its enactment. The House passed the substitute bill, February 27. The bill died with the expiration of the Seventy-First Congress, March 4, without having come to a vote in the Senate.

prescriptions for narcotic drugs; for increasing substantially the penalties for the violation of the Harrison Narcotic Act; for authorizing the growth of peyote for sacramental uses, and traffic in it; for the deportation of aliens who violate or conspire to violate any narcotic law of the United States; for regulating the importation and exportation of cannabis indica and cannabis sativa; for action by the President to induce the powers party to the Hague Opium Convention to comply fully with it; for representation of the United States at the World Conference on Narcotic Education, London, England; for creating a joint congressional committee, to be known as the Committee on Narcotic Traffic; for making "illegal opium and narcotics" contraband; and for investigating the administration of the narcotic laws of the United States.

The introduction of so many bills and resolutions relating to narcotic drugs shows the wide public interest in the narcotic problem. Since narcotic drugs are necessary for the relief of pain and the treatment of disease, it will be well for physicians to watch all such legislation, to see that no unnecessary restrictions are imposed on their professional use. To accomplish that end, physicians must support all legitimate efforts to prevent the diversion of narcotic drugs into illegitimate channels.

No adequate evidence is known to your Board of Trustees that supports the charge sometimes made that many physicians are addicted to the use of narcotic drugs. If cases of such addiction come to the attention of state associations or county societies, steps should be taken to induce or compel the addict to discontinue practice until he is cured. If the laws of a state do not already authorize the suspension and revocation of licenses to practice the healing art when a licentiate is a narcotic addict, legislation should be sought to that end.

World War Veterans' Legislation.—At the close of 1930, Congress had taken no action with respect to any of the bills pending before it providing for the enlargement of the hospital facilities at the command of the Veterans' Bureau for the treatment of veterans suffering from diseases and injuries not of service origin. Many bills looking toward that end were pending, with every prospect of the passage of a bill authorizing a considerable extension of the veterans' hospital service.[3]

The report of the director of the Veterans' Bureau for the year ended June 30, 1930, shows that 44 per cent of the World War veterans under treatment in veterans' hospitals at the close of the year were there on account of diseases and conditions not connected with the service, and 3 per cent were there for determination whether the diseases or conditions from which they were suffering were or were not of service origin. Approximately three out of four general medical and surgical patients, one out of two tuberculous patients, and one out of four neuropsychiatric patients admitted during the year were admitted for the treatment of diseases not determined to be of service origin. Of all patients admitted during the year, 71 per cent were admitted for diseases and injuries not traceable to war service. The number of patients under treatment for such diseases and injuries has been rapidly increasing. One year after the passage of the legislation authorizing the admission of patients suffering from nonservice disabilities, they formed 14 per cent of the hospital load; in 1930 they formed 46 per cent. During that time there was a consistent decrease in the number of first admissions of service-connected cases, from 21,115 in 1924 to 6,558 in 1930.

The extent to which it is proposed by some to carry the medical relief of veterans for diseases and injuries not of service origin is shown by H. R. 15621, which proposes to make it mandatory on the director of the Veterans' Bureau to provide every veteran with medical, surgical and hospital service, and with dispensary service, regardless of the origin of his disease or injury and without reference to his ability to pay for such services, going so far as to provide that, in event facilities in veterans' hospitals are not available, the veteran shall be provided with accommodations in private hospitals at government expense.

In view of the pending legislation looking toward an increase in the facilities of the Veterans' Bureau for the treatment of veterans for diseases and injuries not of service origin, the Council on Medical Education and Hospitals, in December, 1930, made a special survey to ascertain the number of beds usually vacant in state, county, municipal and private hospitals throughout the United States.

A representative of this bureau was assigned to duty in Washington while Congress was in session and the director appeared at a number of hearings held before congressional committees and had many conferences with members of Congress and with administrative officers.

3. Congress, March 4, 1931, authorized an appropriation of $20,877,000 for the construction of new veterans' hospitals and the enlargement of hospitals already in existence, and for the enlargement of the facilities of soldiers' homes.

STATE LEGISLATION

During the year, the legislatures of only nine states met in regular session. The legislatures of twelve states met in one or more special sessions. Approximately 1,200 bills of medical interest were introduced. They included the usual run of bills to allow broader scope to the practice of the cults, to require the annual registration of physicians, to impose occupational taxes on the practice of medicine, to regulate the establishment and maintenance of hospitals, to regulate the sale and possession of drugs and chemicals, to modify workmen's compensation acts, to provide for asexualization, to prevent the use of living dogs for scientific research, and for various other purposes. Some were in the interest of efficient medical service, but too many were in the sole interest of cultists. There was the usual run of freak bills. Only a small fraction of all these bills were enacted — so far as the records of the Bureau of Legal Medicine and Legislation show, not more than forty-two or forty-three. For details concerning such legislation, reference should be made to the *American Medical Association Bulletin*, October, 1930.

The Bureau has cooperated to the fullest possible extent with the officers and committees of state associations in all matters coming within the scope of its work.

Bureau of Investigation

That the work of the Bureau appeals not only to the physician but also to the layman is evidenced by the steady annual increase in correspondence. The year 1930 brought the heaviest gain in letters of inquiry from both physicians and laymen in the history of the Bureau—an increase of almost 20 per cent. The total number of inquiries received by the Bureau during the past five years is: 1926, 7,757; 1927, 8,851; 1928, 9,980; 1929, 10,429; 1930, 12,353. There is an ever increasing demand for data on individual physicians called for by state medical examining boards and secretaries of state and county societies. More than ever before are state boards utilizing the information that the Bureau of Investigation has collected, and the same is true of medical societies. The data furnished by the Bureau is used for determining fitness of applicants for medical licensure or for society membership.

The Better Business bureaus scattered throughout the country, and especially the National Better Business Bureau with its headquarters in New York City, are calling daily on the Bureau of Investigation for information. About three letters a day come from these agencies, all containing requests for information. The medical profession will be pleased to learn that the National Better Business Bureau is now furnishing the periodical publishers of the country with valuable bulletins of information on medical advertising of a quasiscientific or fraudulent character. The material in these bulletins is based on data furnished largely by the Bureau of Investigation.

The Bureau has also been given the opportunity of being of considerable service to governmental agencies in their attempts to curb such medical frauds as cannot easily be reached through other agencies. Not only has the Bureau written a large number of letters during the past year to attorneys and representatives of such bodies furnishing data, but the director of the Bureau has given no small amount of time, both as a witness and as a technical adviser in specific cases.

During 1930, the director of the Bureau has prepared for publication in THE JOURNAL the usual number of articles dealing with nostrum exploitation, quackery and pseudomedicine in general. He has also, during the past year, investigated a large number of complaints on the part of physicians who have reported unfortunate experiences with collection agencies and insurance companies. It is gratifying to know that, in a large proportion of these cases, the good offices of the Bureau of

Investigation have resulted in a satisfactory settlement of the various disputes. In connection with the same field, the director prepared and THE JOURNAL published several articles dealing with collection agencies of dubious merit.

During the first three months of 1930, the director of the Bureau gave radio talks on the subjects of "patent medicines" and cosmetics. He has also, during the year, delivered a number of illustrated addresses on various phases of the nostrum evil and quackery, as well as on cosmetics, before lay audiences. Seventeen of these talks were given in the Chicago area, while the following were given elsewhere:

Battle Creek, Mich.: Calhoun County Medical Society.
Batesville, Ark.: Woman's Auxiliary of the Arkansas Medical Society.
Little Rock, Ark.: Woman's Auxiliary of the Arkansas Medical Society.
Danville, Ill.: Woman's Auxiliary of the Vermilion County Medical Society.
Milwaukee: Wisconsin Press Association.
Hillsdale, Mich.: Rotary Club.
Fayetteville, Ark.: University of Arkansas students.
Springfield, Mo.: State Teachers College students.
Atlanta, Ga.: Public meeting during Health Education Week under auspices of State Medical Society of Georgia.
Atlantic City, N. J.: Woman's Auxiliary of the Medical Society of New Jersey.
New York: Annual meeting of the American Federation of Organizations for the Hard of Hearing.
Windsor, Ont.: Kiwanis Club (during A. M. A. annual session).
Fort Wayne, Ind.: Public meeting under auspices of Indiana State Medical Association.
Cleveland: McBride Lecture, Western Reserve University.

There has been the usual demand for the lantern slide loan service of the Bureau on the part of physicians, public health officials and instructors who have wished to give illustrated talks on the nostrum evil and quackery. There has also been an increased demand for the pamphlets and educational posters prepared and issued by the Bureau.

Many requests for a later volume of the book "Nostrums and Quackery" have been received. The first volume of the book, which was issued in 1912, has been out of print for some years. The second volume, issued in 1921, is still on sale. Material for volume three is now in process of collection and it is hoped that, before the year is out, this new volume will be available to the profession and the public.

Bureau of Scientific and Educational Exhibits

THE ANNUAL SCIENTIFIC EXHIBIT

The Scientific Exhibit at the Detroit session, larger than any that preceded, was made up of 136 separate exhibits. Exclusive of guest demonstrators and attendants at the special exhibits of fresh pathology, fractures, varicose veins and biochemical diagnostic methods, there were 280 exhibitors. Approximately 20,000 square feet of floor space was used. There was, unavoidably, some scattering of exhibits because of the arrangement of the halls, but the tone and dignity of the exhibit equaled the high standard set in previous years. The limitation of admissions to Fellows and special guests made it possible for the exhibits to be studied to better advantage than at previous sessions.

There were six exhibits sponsored by sections of the scientific assembly. This was gratifying to the Committee on Scientific Exhibit and to the Board of Trustees, who have tried to encourage such cooperation.

The Section on Radiology had seventeen exhibits; the Section on Dermatology and Syphilology nine, dealing with syphilis; the Section on Diseases of Children five, dealing with the relation between underweight and malnutrition, diet in pediatric practice and other subjects; the Section on Obstetrics, Gynecology and Abdominal Surgery four; the Section on Urology four; the Section on Laryngology, Otology and Rhinology four. Twenty-nine papers read at section meetings dealt with subjects treated in exhibits. The Detroit College of Medicine and Surgery and the University of Michigan were well represented in the Scientific Exhibit and members of their faculties contributed largely to the success of this feature, as did members of hospital staffs in Detroit.

The three special exhibits on fresh pathology, fractures and biochemical diagnostic methods, so popular in former years, were continued, and a fourth special exhibit dealt with varicose veins.

The fresh pathology exhibit had the benefit of the services of five eminent guest demonstrators.

The fracture exhibit was continued under the direction of the Cooperative Committee on Fractures, with more than sixty experienced demonstrators. The Medical Corps of the United States Army sent a detachment of soldiers who served as subjects for demonstrations and contributed greatly to the success of this exhibit.

The exhibit on biochemical diagnostic methods was shown for the third consecutive year, with the aid of a fine corps of able demonstrators. An almost complete laboratory was set up where were shown the advantages and limitations of biochemical methods in diagnosis.

The exhibit on varicose veins, shown for the first time at Detroit, created an interest far greater than was expected. Demonstrations were given morning and afternoon of each day before large audiences.

The Committee on Awards was composed of the following Fellows: Dr. C. R. Bardeen, Madison, Wis., Anatomy, chairman; Dr. Richard H. Jaffe, Chicago, Pathology; Dr. C. Guy Lane, Boston, Dermatology; Dr. Dean Lewis, Baltimore, Surgery; Dr. F. C. Mann, Rochester, Minn., Internal Medicine; Dr. G. F. Powers, New Haven, Conn., Pediatrics; Dr. W. Walter Wasson, Denver, Radiology.

Dr. Paul Nicholas Leech, director of the Chemical Laboratory, has served as director of the Scientific Exhibit for nine years. Under his capable supervision it has come to be one of the principal features of the annual session and its educational value has enhanced with each succeeding year. Because of the great amount of time and effort required of the director, Dr. Leech has been relieved of this responsibility in order that he may devote himself more fully to the work of the laboratory, and Dr. T. G. Hull has been made director.

For its own members and for the Association, the Board of Trustees acknowledges with grateful appreciation the splendid service rendered by exhibitors, demonstrators, officers of sections and all others who have participated in the Scientific Exhibit each year and have made it an extremely valuable factor in the Association's scientific work.

THE CENTRAL SCIENTIFIC EXHIBIT

The Central Scientific Exhibit was officially opened, Feb. 10, 1930. During the year more than 200 visitors were registered from all parts of the United States, from England and from China, although little publicity was given to the exhibit.

Ten exhibits, consisting of about one thousand items, have been installed and three have been selected and will be installed in the near future.

Exhibits now in place, with the names of the persons who prepared them and the annual session at which each was chosen are as follows:

Tularemia: Walter M. Simpson; Minneapolis session, 1928.
Lymphoblastoma: Paul A. O'Leary and Hamilton Montgomery; Minneapolis session, 1928.
Stereographs of the Living Eye: Arthur J. Bedell; Minneapolis session, 1928.
Leprosy: A Study in Natural Photography, O. E. Denney; Minneapolis session, 1928.
Cutaneous Granulomas: F. J. Eichenlaub, C. W. Finnerud, Howard Fox, Henry H. Hazen, Oliver S. Ormsby, James Herbert Mitchell, William Allen Pusey and Bedford Shelmire; Minneapolis session, 1928.
Undulant Fever: A. V. Hardy; Portland session, 1929.
Cutaneous Manifestations of Syphilis: C. W. Finnerud, Howard Fox, George M. MacKee, James Herbert Mitchell, Edward A. Oliver, William Allen Pusey, Bedford Shelmire and Erwin P. Zeisler; Detroit session, 1930.
Histopathology of Cutaneous Syphilis: Hamilton Montgomery and J. A. Hookey; Detroit session, 1930.
Bone Repair Following Fracture and Experimental Extraskeletal Bone Production: Clay Ray Murray; Detroit session, 1930.
Prostatic Disease: H. C. Bumpus, Jr.; Detroit session, 1930.

While most of the material in the Central Scientific Exhibit consists of pictures, drawings and transparencies, a beginning has been made on tridimensional exhibits. In the exhibit on cutaneous granulomas, microscopes have been installed so that it will be possible for the visitor to study the microscopic aspects of each kind of lesion shown. An additional feature intended to make the exhibit of more usefulness is the collection of reprints of original articles dealing with each particular subject.

Before another year, additional space will be necessary as the present quarters are almost completely occupied.

ASSOCIATION EXHIBITS

The participation of the various councils and bureaus of the Association in the Annual Scientific Exhibit was carried out as usual. Each department prepared and installed its own material.

Association exhibits have been sent to medical and scientific meetings on various occasions during the year. Since April 1, 1930, the director has personally supervised the installation of such exhibits at meetings of the Illinois State Medical Society, the American Dental Association and the American Hospital Association and has assisted with material exhibited at the meeting of the American Public Health Association. Exhibit material was sent to a meeting of the Virginia Medical Association. Educational exhibits for the public have been sent to the Health Show, Chicago; Indiana Tuberculosis Association, Kentland, Ind.; California Medical Association, San Francisco; State Convention of Parent-Teachers Association, Greensboro, N. C.; Athletic Association of Wesleyan College, Macon, Ga.; Health Show of the Norfolk and Western Railway Company, Portsmouth, Ohio; State Normal School, Bridgewater, Conn., and the Department of Chemistry, University of Illinois, Urbana, Ill.

There was prepared during the latter part of the year a portable exhibit booth. An exhibit with mechanical features for lay audiences has been assembled and a similar one for medical meetings is in course of preparation.

PUBLICATIONS

There have been prepared each year certain publications for distribution at the special exhibits in the Scientific Exhibit at the annual session.

The Cooperative Committee on Fractures has combined its material of the last four years into a "Primer on Fractures," which is now on sale. Other publications of the Scientific Exhibit on sale are "Practical Suggestions Regarding Biochemical Diagnostic Methods" and "Exhibit on Varicose Veins."

Report of the Committee on Scientific Research for 1930

During the year, thirty-seven applications were received. After careful consideration of the importance and feasibility of the projects for which aid was requested, and of the competence of the applicants to succeed in their research, the committee made awards in twenty-five cases (grants 172 to 196), the total amount awarded being $13,330. Nine applications were declined, two were withdrawn, and one is under active consideration. The new grantees represent various fields of medical science. The main needs for which financial aid was requested are: technical assistance, four; apparatus, materials and supplies, fifteen; combined, six. In each case the money has been paid to the financial officer of the institution with which the grantee is connected, thus assuring an accurate accounting, the grants being disbursed on requisitions by the grantees. Twice a year official reports of the progress of the work and of disbursements are made, and in all but one or two cases the recent reports indicate that the work under the grants of the committee is progressing satisfactorily. The expenses of the committee for 1930 amount to $613.06. It is of interest to note that during the year refunds have been received in the case of twelve grants, amounting in all to $2,196.42.

A list of the grants made during 1930 and accounts of the work under previous grants pending at the end of 1929 are presented in the appendix.

RECOMMENDATION

The committee recommends that, for 1931, $12,000 be allotted for grants to aid medical research and $1,200 for the expenses of the committee.

Respectfully submitted.

COMMITTEE ON SCIENTIFIC RESEARCH OF THE AMERICAN MEDICAL ASSOCIATION.

LUDVIG HEKTOEN, Chicago, Chairman. Term expires, 1936.
C. C. BASS, New Orleans. Term expires, 1932.
JOHN J. MORTON, Rochester, N. Y. Term expires, 1933.
N. W. JONES, Portland, Ore. Term expires, 1934.
MARTIN H. FISCHER, Cincinnati. Term expires, 1935.

Bureau of Medical Economics

In accordance with the terms of a resolution adopted by the House of Delegates at the Detroit session, a Bureau of Medical Economics has been created and is now engaged in prosecuting studies of important interest. Dr. R. G. Leland, formerly assistant director of the Bureau of Health and Public Instruction, is director of the new bureau. The results of investigations undertaken will be published in THE JOURNAL and in the AMERICAN MEDICAL ASSOCIATION BULLETIN from time to time, and an annual report of the Bureau's work will be submitted by the Board of Trustees.

Committee on Legislative Activities

A resolution submitted by Dr. C. B. Wright, delegate from Minnesota, and adopted by the House of Delegates last year, provided for the appointment of a Committee on Legislative Activities. This committee, composed of Drs. D. Chester Brown, E. H. Cary, Thomas S. Cullen, J. H. J. Upham and C. B. Wright, has had a meeting with the Executive Committee of the Board of Trustees, has conferred with the Director of the Bureau of Legal Medicine and Legislation and will cooperate in promoting the legislative plans of the Association.

Committee on Mental Hygiene

A Committee on Mental Hygiene, as provided for in a resolution submitted by Dr. Tom B. Throckmorton, delegate from the Section on Nervous and Mental Diseases, was appointed as follows: Dr. H. Douglas Singer, chairman, Dr. F. G. Ebaugh, Dr. Walter L. Treadway, Dr. J. Allen Jackson and Dr. E. J. Emerick. This committee has been asked to serve as an advisory committee to the Council on Medical Education and Hospitals in connection with its investigation of hospitals for mental and nervous diseases and has accepted.

Committee on Motion Pictures

A Committee on Motion Pictures, composed of Dr. C. P. Emerson, chairman, Dr. Carl Henry Davis and Dr. A. B. Luckhardt, was appointed by the Board of Trustees and is now at work.

Committee on Industrial and Domestic Hazards

The Committee on Poisonous Gases, appointed by the Board of Trustees, having discharged the duties assigned to it through the publication of several valuable reports, has been discontinued on request of the members of the committee. The reports of this committee attracted widespread attention and have undoubtedly produced beneficial results. It appears, however, that there are numerous substances sold to the public the use of which involves definite domestic hazards, and that other substances widely used in industry are dangerous to health and life unless they are used under the proper conditions. Such substances include volatile liquids the fumes of which are poisonous and other materials in products that are extensively used in homes. In the manufacture of these products workers are subjected to serious dangers, and the use of them in the home and elsewhere may be accompanied by distinct hazards to health and life.

It seems that no agency has been provided by the government by which such hazards may be defined and the requisite safeguards enforced. The Board of Trustees, therefore, recommends to the House of Delegates that a committee be created to deal with industrial and domestic hazards for the purpose of securing and compiling information that may be applied for the public protection.

Resolutions on Care of Veterans

The resolutions on the care of veterans, which were adopted by the House of Delegates at the Detroit session, were transmitted by telegraph to the President of the United States in accordance with the instruction of the House of Delegates.

Acting on suggestions offered in the discussion of these resolutions on the floor of the House at Detroit, conferences were held with physicians who have been active members of the American Legion concerning the advisability of presenting these resolutions to the directing official bodies of the Legion, and it was determined by the Board of Trustees to leave to the judgment of those with whom conferences were held the choice of the right time at which to convey the resolutions to the proper officers of the American Legion.

Resolution on Standardization of Clinical Thermometers

A resolution adopted by the House of Delegates at Detroit provided that the Board of Trustees should request the Bureau of Standards to formulate a method whereby thermometers alleged to conform to the standards set by that bureau be checked as to such conformation and that suitable penalties be provided by law for violation of such standards by manufacturers.

The Board of Trustees desires to report that it is keeping this matter under close advisement and is endeavoring to formulate some prospective legislation that will have a reasonable chance for favorable consideration.

Working Personnel

The services of approximately five hundred employees are required to carry on the Association's work. The Board of Trustees is happy to express its appreciation of their loyal and efficient service.

E. B. HECKEL, Chairman.
J. H. WALSH, Secretary.
D. CHESTER BROWN.
ALLEN H. BUNCE.
THOMAS S. CULLEN.
A. R. MITCHELL.
JOSEPH A. PETTIT.
ROCK SLEYSTER.
J. H. J. UPHAM.

APPENDIX

GRANTS MADE BY THE COMMITTEE ON THERAPEUTIC RESEARCH

Grant 155: E. A. Doisy, director and professor of biologic chemistry, St. Louis University School of Medicine, $600, to investigate bio-assays of ovarian hormone preparations.

Grant 156: Department of Pharmacology, Western Reserve University School of Medicine, $600, to investigate penetration and other features of mercurochrome-220 soluble and of other antiseptics.

Grant 157: Treat B. Johnson, Sterling professor of chemistry, and Katherine Haring, Yale University, $250, to investigate protein sugar constructions and their antigenic properties.

Grant 158: R. G. Hoskins, M.D., director of research, Worcester State Hospital, $250, to investigate growth-promoting and sex-stimulating fractions of anterior lobe pituitary extracts on human metabolism.

Grant 159: A. D. Hirschfelder, professor of pharmacology, University of Minnesota Medical School, $250, to investigate the concentration of calcium and of magnesium in the blood in experimental and clinical conditions.

Grant 160: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $200, to investigate the administration of insulin by mouth.

Grant 161: E. A. Park, M.D., pediatrician-in-chief, Johns Hopkins Hospital, $125, to investigate the diseases affecting the bones in children.

Grant 162: J. Murray Luck, assistant professor of biochemistry, Stanford University, $200, to investigate the action of Neo-synthalin on protein metabolism in normal human subjects.

Grant 163: O. W. Barlow, assistant professor of pharmacology, Western Reserve University School of Medicine, $200, to investigate the premedication values of various opiates in relation to nitrous oxide anesthesia.

Grant 164: E. L. Jackson, associate professor of pharmacology, Emory University School of Medicine, $200, to investigate the antagonism between soluble barbital and insulin.

The following is a list of the investigations conducted under the Therapeutic Research Committee, which were published during 1930:

1. The Basal Metabolic Rate in Relation to the Menstrual Cycle, Claire J. Conklin and J. F. McClendon: *Archives of Internal Medicine*, January, 1930.

2. A Comparison of the Method of Excretion of Neutral Red and Phenol Red by the Mammalian Kidney, Eaton MacKay and Jean Oliver: *Journal of Experimental Medicine*, January, 1930.

3. Mercurial Ointments in the Treatment of Syphilis: Their Absorption as Measured by Studies on Excretion, H. N. Cole, Nora Schreiber and Torald Sollmann: *Archives of Dermatology and Syphilology*, March, 1930.

4. An Experimental Study of the Action of Sodium Iodide on Excised and Intact Ureters of Dogs, Harry R. Trattner, Herbert B. Wright and O. W. Barlow: *Journal of Urology*, April, 1930.

5. The Relation of Particle Size to Mechanism of Dye Excretion by the Kidney, Jean Oliver and Eshref Shevky: *American Journal of Physiology*, May, 1930.

6. Pharmacologic Action of Various Aromatic-Aliphatic Lectones: II. Studies on Chemical Constitution and Pharmacologic Action, W. F. von Oettingen: *Journal of Pharmacology and Experimental Therapeutics*, May, 1930.

7. Condensation Products of Aromatic Aldehydes with Δ_2-Angelica Lactone, W. F. von Oettingen: *Journal of the American Chemical Society*, May, 1930.

8. The Preparation of the Crystalline Follicular Ovarian Hormone: Theelin, Clement D. Veler, Sidney Thayer and Edward A. Doisy: *Journal of Biological Chemistry*, June, 1930.

9. Experimental Nephritis in the Frog: I. The Anatomic Evidence of Damage, Jean Oliver and Pearl Smith: *Journal of Experimental Medicine*, August, 1930.

10. The Regulation of Respiration: A Study of the Correlation of Numerous Factors of Respiratory Control During Altered Pressures of Alveolar Oxygen, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

11. The Regulation of Respiration: A Study of the Correlation of Numerous Factors of Respiratory Control During Intravenous Injection of Sodium Cyanide and Recovery, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

12. The Regulation of Respiration: A Study of the Correlation of Numerous Factors of Respiratory Control During Hemorrhage and Reinjection, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

13. The Regulation of Respiration: A Study of the Correlation of Numerous Factors of Respiratory Control Following Intravenous Injection of Sodium Bicarbonate, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

14. The Regulation of Respiration: A Study of the Correlation of Numerous Factors of Respiratory Control Following Administration of Hydrochloric Acid, of Carbon Dioxide, and the Simultaneous Administration of Carbon Dioxide and Sodium Bicarbonate, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

15. The Regulation of Respiration: A Study of the Correlation of Numerous Factors in Respiratory Control Produced by Intravenous Injection of Ammonium Chloride, Methylene Blue, Strychnine and Sodium Sulphide, Robert Gesell, Hugo Krueger, Grace Gorham and Theodore Bernthal: *American Journal of Physiology*, August, 1930.

The following grants were issued before Jan. 1, 1930. In some cases the grant has expired and an unexpended balance remains; or the work is not yet completed or not yet published.

Grant 88: M. S. Dooley, professor of pharmacology, Syracuse University College of Medicine, $75, to aid in the completion of an investigation on a comparison of the results of intramuscular injections in the frog, of various preparations of digitalis with colorimetric assays of the same.

Grant 102: Charles W. Greene, professor of physiology and pharmacology, University of Missouri Department of Physiology, $250, to investigate the distribution of nitrous oxide and oxygen in the blood during anesthesia.

Grant 110: E. E. Ecker, assistant professor of immunology, Department of Pathology, Western Reserve University School of Medicine, $200, to investigate the action of bacterial filtrates on intestinal movements.

Grant 119: Nicholas Kopeloff, associate in bacteriology, Psychiatric Institute (New York), $100, to investigate bacillus acidophilus milk for the prevention and treatment of summer diarrhea in babies.

Grant 125: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $200, to investigate the conditions under which insulin may be administered effectively by the alimentary tract. II.

Grant 132: David Rapport, Department of Physiology, Tufts College Medical School, $200, to investigate the physiologic effect of certain compounds of tyrosine.

Grant 135: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $100, to investigate the conditions under which insulin may be administered effectively by the alimentary tract.

Grant 139: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $200, to investigate the conditions under which insulin may be administered effectively by the alimentary tract. II.

Grant 142: Bernard E. Read, Department of Pharmacology, Peiping Union Medical School, $200, to investigate ephedra and ephedrine.

Grant 143: Cleveland J. White, M.D., 104 South Michigan Avenue, Chicago, $150, to investigate the local, general and prophylactic aspects of superficial fungus diseases of the skin.

Grant 145: W. F. von Oettingen, senior instructor of pharmacology, Western Reserve University School of Medicine, $200, to investigate the synthesis and pharmacology of choline derivatives.

Grant 146: Nora E. Schreiber, research assistant, Department of Pharmacology, Morley Chemical Laboratory, Western Reserve University School of Medicine, $250, to investigate the excretion of mercury under different methods of administration.

Grant 148: Harry R. Trattner, M.D., demonstrator of surgery, Western Reserve University School of Medicine, $200, to investigate the action of sympathetic and parasympathetic drugs on ureteral activity.

Grant 149: F. T. Lord, M.D., instructor in medicine, Harvard University Medical School, $250, to investigate the relation of protective substance in the patient's serum to the outlook in lobar pneumonia and the agglutination test as an indication of dosage of Felton's antibody solution.

Grant 152: C. W. Greene, professor of physiology and pharmacology University of Missouri School of Medicine, $300, to investigate the reaction of the coronary system to drugs.

Grant 153: E. A. Doisy, director and professor of biologic chemistry, St. Louis University School of Medicine, $600, to investigate bio-assays of ovarian hormone preparations.

Grant 154: Jean Oliver, professor of pathology, Hoagland Laboratory, Long Island College Hospital, $200, to investigate experimental nephritis.

GRANTS AND FINANCIAL STATEMENT OF COMMITTEE ON SCIENTIFIC RESEARCH

NEW GRANTS

Grant 172: Detlev W. Bronk, University of Pennsylvania, $175 for study of the nervous regulation of the heart.

Grant 173: Arthur F. Coca, New York Hospital, $600 for a study of avian tubercle infection.

Grant 174: Alfred R. Roos, College of Medical Evangelists, Loma Linda, Calif., $1,455 for study of hay-fever pollens in the Southwest.

Grant 175: Helen T. Parsons, University of Wisconsin, $200 for study of the physiologic effects of high protein diets (see grant 195).

Grant 176: Fred J. Wampler, Medical College of Virginia, Richmond, $1,200 for the study of the lung involvement in human ascariasis.

Grant 177: W. T. Dawson, University of Texas School of Medicine, Galveston, $140 for chemical and physiologic study of alkaloids of the cinchona series (see grant 192).

Grant 178: Karl H. Martzloff, University of Oregon Medical School, Portland, $150 for study of healing after gastro-enterostomy.

Grant 179: George T. Pack, Memorial Hospital, New York, $300 for a study of certain clinicopathologic problems of melanoma.

Financial Statement for 1930

Balance to credit of committee, Jan. 1, 1930	$ 530.76	
Appropriation for 1930	13,200.00	
Refund, grant 109	337.48	
Refund, grant 113	95.09	
Refund, grant 144	456.38	
Refund, grant 151	300.00	
Refund, grant 152	48.03	
Refund, grant 153	116.61	
Refund, grant 155	100.00	
Refund, grant 157	304.93	
Refund, grant 164	49.56	
Refund, grant 166	119.65	
Refund, grant 173	121.57	
Refund, grant 176	147.12	
		$15,927.18

Grants and Expenses Paid in 1930

Grant 172, Detlev W. Bronk	$ 175.00	
Grant 173, Arthur F. Coca	600.00	
Grant 174, Alfred R. Roos	1,455.00	
Grant 175, Helen T. Parsons	200.00	
Grant 176, Fred J. Wampler	1,200.00	
Grant 177, W. T. Dawson	140.00	
Grant 178, Karl H. Martzloff	150.00	
Grant 179, George T. Pack	300.00	
Grant 180, Stanhope Bayne-Jones	500.00	
Grant 181, Erwin Brand	700.00	
Grant 182, Icie G. Macy	500.00	
Grant 183, Robert A. Hegner	1,500.00	
Grant 184, Herbert F. Thurston	300.00	
Grant 185, Daniel A. McGinty	150.00	
Grant 186, W. W. Swingle and Joseph J. Pfiffner	1,000.00	
Grant 187, A. R. Johnston	1,000.00	
Grant 188, Owen H. Wangensteen	600.00	
Grant 189, Ralph H. Major	500.00	
Grant 190, Theodore Cornbleet	500.00	
Grant 191, W. E. Burget	500.00	
Grant 192, W. T. Dawson	110.00	
Grant 193, Harry J. Deuel, Jr.	300.00	
Grant 194, C. H. Thienes	500.00	
Grant 195, Helen T. Parsons	300.00	
Grant 196, Ward W. Summerville	150.00	
Clerical expenses	600.00	
Printing	13.06	
		$13,943.06
Balance on hand		$ 1,984.12

Grant 180: Stanhope Bayne-Jones, University of Rochester, New York, $500 for the study of chemotherapy of tuberculosis by Georges Knaysi.

Grant 181: Erwin Brand, New York State Psychiatric Institute and Hospital, $700 for research in cystinuria.

Grant 182: Icie G. Macy, Merrill-Palmer School, Detroit, $500 for a study of vitamins A and B in human breast milk.

Grant 183: Robert A. Hegner, Johns Hopkins University, $1,500 for study of host-parasite relations in man in continuation of work under previous grants nos. 101 (C. A. Brant Fund), 1926; 125, 1927, and 154, 1929.

Grant 184: Herbert F. Thurston, Indiana University, Indianapolis, $300 for study of the suturing of blood vessels.

Grant 185: Daniel A. McGinty, Emory University, Georgia, $150 for study of the metabolism of lactic acid in the cardiac muscles.

Grant 186: W. W. Swingle and Joseph J. Pfiffner, Princeton University, $1,000 for the preparation and study of extract of cortex of the beef suprarenal.

Grant 187: A. R. Johnston, University of Cincinnati, $1,000 for a study of the toxic action of poisonous amines.

Grant 188: Owen H. Wangensteen, University of Minnesota, $600 for study of intestinal obstruction.

Grant 189: Ralph H. Major, University of Kansas, Lawrence, $500 for study of depressor substances in the brain, liver and pancreas.

Grant 190: Theodore Cornbleet, University of Illinois Medical School, Chicago, $500 for study of effect of carbohydrate metabolism and light on the skin.

Grant 191: W. E. Burget, University of Oregon Medical School, Portland, $500 for further work on the closed intestinal loop (see grants 149, 1926, and 170, 1929).

Grant 192: W. T. Dawson, University of Texas School of Medicine, Galveston, $110 for further work on cinchona alkaloids (see grant 177).

Grant 193: Harry J. Deuel, Jr., University of Southern California, Los Angeles, $300 for study of the antiketogenic value of various carbohydrates.

Grant 194: C. H. Thienes, University of Southern California, Los Angeles, $500 for study of the relationship between the myenteric plexus and ganglions and the mesenteric nerves.

Grant 195: Helen T. Parsons, University of Wisconsin, $300 for further study of the physiologic effects of high protein diets (see grant 175).

STATE OF WORK UNDER PREVIOUS GRANTS

1. COMPLETED DURING THE YEAR

"Completed" means that the work immediately aided by a grant has been concluded, that account has been made of the expenses, and that results of the work have been published.

Grant 103, 1926: $855 to R. O. Loebel, Cornell University Medical College, for study of the gaseous exchange of normal and malignant cells. Richardson, H. B.; Loebel, R. O., and Shorr, E.: Respiratory Metabolism of Excised Normal and Diabetic Tissue, *Proc. Soc. Exper. Biol. & Med.* **25:** 658, 1928. Loebel, R. O., and Shorr, E.: Effect of Respiratory Depressants on the Respiratory Quotient of Excised Tissue, *Proc. Soc. Exper. Biol. & Med.* **26:** 722, 1929. Richardson H. B.; Shorr, E., and Loebel, R. O.: The Respiratory Quotient of Normal and Diabetic Tissue, *J. Biol. Chem.* **86:** 551, 1930.

Grant 108, 1927: $750 to C. V. Green, Michigan State College, for study of inheritance of color blindness and hemophilia with especial reference to linkage. Davenport, C. B.: Sex Linkage in Man, *Genetics* **15:** 401, 1930.

Grant 109, 1927: $600 to C. B. Semerak, Rush Medical College, for study of the pathologic changes in carbon monoxide poisoning ($337.48 refunded). Semerak, C. B., and Bacon, L. H.: Experimental Lesions of the Brain from Carbon Monoxide, *Arch. Path.* **10:** 823, 1930.

Grant 132, 1928: $200 to F. T. Rogers, C. L. Martin and J. S. Sweeney, Baylor University, for study of the effect of the roentgen ray on the suprarenals. Rogers, F. T., and Martin, C. L.: The Effects of X-Rays on the Adrenal Gland, *Am. J. Physiol.* **93:** 219, 1930.

Grant 144, 1928: $800 to I. S. Falk, University of Chicago, for research on the purification of diphtheria toxin and antitoxin ($456.38 refunded). Maver, Mary E.: The Growth and Toxin Production of Corynebacterium Diptheriae in Synthetic Mediums, *J. Infect. Dis.* **47:** 384, 1930.

Grant 145, 1928: $600 to Kamil Schulhof, John McCormick Institute for Infectious Diseases, Chicago, for study of the physiologic action of thyroxin as compared with thyroglobulin. Schulhof, Kamil: Thyroglobulin versus Thyroxin, *Am. J. Physiol.* **93:** 170, 1930; The Effect of Antithyroglobulin Serum on the Physiological Action of Thyroglobulin, ibid. **93:** 175, 1930.

Grant 149, 1928: $250 to G. E. Burget, University of Oregon School of Medicine, for study of the hydraulic pressure in closed intestinal loops (Van Zwalenburg Fund). Burget, G. E., and others: The Closed Intestinal Loop, *Arch. Surg.* **21:** 829, 1930.

Grant 152, 1929: $400 to A. H. Smith and T. S. Moise, Yale University, for study of the relation of diet to renal physiology and pathology in continuance of the work under grant 121, 1927 ($48.03 refunded). Parsons, Helen T.; Smith, Arthur H.; Moise, T. S., and Mendel, Lafayette B.: Diet and Tissue Growth: Response to High Protein Diets and Unilateral Nephrectomy During Reproduction and Lactation in the Rat, with Particular Reference to Kidney Changes in Both Mother and Offspring, *Arch. Path.* **10:** 1, 1930. Parsons, Helen T.: Urea Concentrations in the Blood of the Rat in Relation to Pregnancy and Lactation on Diets Containing Varying Concentrations of Protein, *J. Biol. Chem.* **88:** 311, 1930. Further publications will be made.

Grant 154, 1929: $1,500 to Robert Hegner, School of Hygiene and Public Health, Johns Hopkins University, for studies of the host-parasite relations in man in continuation of work under grants 101 (C. A. Brant Fund), 1926, and 125, 1927 (see previous reports by the committee). The following articles on the results of the work have been published: Hegner, Robert: Transmission of Intestinal Protozoa from Man and Other Animals to Parasite-Free Fowls, *Am. J. Hyg.* **9:** 529, 1929. Hegner, Robert: The Infection of Parasite-Free Chicks with Intestinal Protozoa from Birds and Other Animals, ibid. **10:** 33, 1929. Ratcliffe, H. L.: The Comparative Adaptability of Trichomonas Muris and Trichomonas Parva to Culture Media and to Changes in the Intestinal Flora of Rats, ibid. **10:** 63, 1929. Ratcliffe, H. L.: A Method for Obtaining a Breeding Stock of Rats Free from Intestinal Protozoa, *Science* **70:** 286, 1929. Hegner, Robert: The Viability of Trichomonad Flagellates in Milk, *J. Parasitol.* **16:** 47, 1929. Schumaker, E.: Experimental Infection of Rats with the Balantidium from the Pig, *Science* **70:** 384, 1929. Hegner, Robert: Endolimax Amoebae in the Vagina of Rhesus Monkeys, *J. Parasitol.* **16:** 91, 1929. Ratcliffe, H. L.: The Effects of Changes in the Diet and Intestinal Conditions of Rats upon Infections with Trichomonas Hominis and Pentatrichomonas Ardin Delteili, *Am. J. Hyg.* **11:** 159, 1930. Wampler, F. J.: A Preliminary Report on the Early Effects of Plasmochin on P. Cathemerium, *Arch. f. Protistenkunde* **69:** I, 1930. Ratcliffe, H. L.: The Relations of Endamoeba Muris and Chilomastix Bettencourti to the Diet and Intestinal Conditions of Rats, *J. Parasitol.* **16:** 76, 1930.

Grant 156, 1929: $300 to C. I. Reed, University of Illinois College of Medicine, for a study of the effects of phototherapy by way of the skin. Bachem, A., and Reed, C. I.: The Penetration of Ultraviolet Light Through the Human Skin, *Arch. Phys. Therap.* **12:** 49, 1930. Reed, C. I., and Barnard, R. D.: Studies on the Physiological Action of Light, *Am. J. Physiol.* **93:** 146, 1930.

Grant 157, 1929: $1,000 to C. H. Frazier, University of Pennsylvania, for field study of families with tendencies to deafness ($304.93 refunded). Gardner, W. J., and Frazier, C. H.: Bilateral Acoustic Neurofibromas: A Clinical Study and Field Survey of a Family of Five Generations with Bilateral Deafness in Thirty-Eight Members, *Arch. Neurol. & Psychiat.* **23**:266, 1930.

Grant 161, 1929: $600 to E. B. Hart, University of Wisconsin, for work on the factors influencing the distribution of copper in animal tissues with particular reference to the storage of copper in the tissues of the fetus and its influence in preventing anemia during the suckling stage, in continuation of work under grant 134, 1928. Elvehjem, C. A.; Kemmerer, A. R.; Hart, E. B., and Halpin, J. G.: The Effect of the Diet of the Hen on the Iron and Copper Content of the Egg, *J. Biol. Chem.* **85**: 89, 1929. Hart, E. B.; Elvehjem, C. A.; Steenbock, Harry; Bohstedt, G., and Fargo, J. M.: A Study of the Anemia of Young Pigs and Its Prevention, *J. Nutrition*, **2**: 277, 1930.

Grant 165, 1929: $600 to L. R. Whitaker, Boston University School of Medicine, for work on the physiology and pathology of the gallbladder, in continuation of work under grant 141, 1928. Whitaker, L. R.: Surgical Management of Gallbladder Disease, *New England J. Med.* **203**: 718, 1930.

2. Grants Relinquished and Refunded

Grant 151, 1929: $300 to B. Z. Rappaport, University of Illinois College of Medicine, for experimental work on human ascariasis. Because the grantee found it impossible to secure volunteers for his experiments, this grant has been relinquished and the money refunded.

Grant 155, 1929: $100 to F. D. Weidman, University of Pennsylvania, for a study of the elimination of dyes by the skin. Owing to change in plan, the grantee found it inadvisable to carry out the work as intended and the amount granted has been refunded.

3. Incomplete

A. Work Under Grant Completed, Account Rendered of Expenses, but Results not Published.

Grant 94, 1926: $800 to R. L. Benson, University of Oregon School of Medicine, for experimental study of arteriosclerosis.

Grant 106, 1927: $500 to A. M. Yudkin, Yale University, for work on experimental cataract and related changes. The following articles have been published: Yudkin, A. M.: The Formation of the Aqueous Humor, *Tr. Am. Acad. Opth. & Oto-Laryng.*, 1928: A Critical and Experimental Study, *Tr. Am. Ophth. Soc.* **26**: 319, 1928. Krause, A. C., and Yudkin, A. M.: The Chemical Composition of the Normal Aqueous Humor of the Dog, *J. Biol. Chem.* **88**: 471, 1930. The final paper is in the course of preparation.

Grant 107, 1927: $500 to H. L. Huber, Chicago, for work on the chemical and immunologic properties of the pollens of hay-fever and allied conditions.

Grant 113, 1927: $500 to C. W. Apfelbach, Presbyterian Hospital, Chicago, for work on the renal function after glomerular infarction ($95.09 refunded). Miller, E. M., and Apfelbach, C. W.: Experimental Infarction of the Glomeruli in Dogs, *Arch. Path.* **4**: 193, 1927. Jensen, C. R., and Apfelbach, C. W.: Method of Making Repeated Determinations of the Intra-Arterial Systolic Blood Pressure in Dogs, *Arch. Path.* **6**: 99, 1928. The final article is in course of publication.

Grant 123, 1927: $500 to S. R. Gifford, University of Nebraska School of Medicine, for study of the chemical properties of the normal and cataractous lens.

Grant 127, 1928: $300 to R. L. Moodie, Santa Monica, Calif., toward a study of the lesions associated with deafness among precolumbian Peruvians.

Grant 148, 1928: $250 to J. J. Morton, University of Rochester School of Medicine and Dentistry, for work on intoxication in intestinal obstruction and strangulation (Van Zwalenburg Fund). Morton, J. J.: The Differences Between High and Low Intestinal Obstruction in the Dog: An Anatomic and Physiologic Explanation, *Arch. Surg.* **18**: 1119, 1929. Additional articles will be published.

Grant 150, 1929: $200 to Benjamin Friedman, Knapp Memorial Eye Hospital, New York, for the study of ocular pulsations by graphic methods. The results of the work are in the course of publication.

Grant 153, 1929: $300 to G. A. Talbert, University of North Dakota, for the continuation of the study of the constituents common to the sweat, blood and urine, aided by previous grants (104 and 122, 1927, and 135, 1928) ($116.61 refunded).

Grant 159, 1929: $300 to R. L. Moodie, Santa Monica, Calif., to complete a study of otosclerosis and other causes of deafness among precolumbia Peruvians under grant 127, 1928.

Grant 164, 1929: $100 to J. H. Black, Baylor University College of Medicine, for the chemical study of ragweed pollen ($49.56 refunded).

Grant 166, 1929: $500 to H. F. Thurston, Indianapolis, for the study of the toxemia of acute intestinal obstruction.

Grant 168, 1929: $500 to V. C. Jacobsen, Albany Medical College, for the study of the effects on animal tissues of alternating current of ultra high frequency.

Grant 169, 1929: $600 to H. J. Howard, Washington University School of Medicine, for aid in research in ophthalmic bacteriology.

Grant 170, 1929: $500 to G. E. Burget, University of Oregon School of Medicine, for continuation (grant 149, 1926) of a study of the effect of hydraulic pressure in closed intestinal loops (see grant 191, 1930).

B. Active Work Still in Progress.

Grant 105, 1927: $1,800 to H. B. Ward, University of Illinois, for study of life history of broad fish tapeworm endemic in man in northern Minnesota. The work under this grant is still in progress. The work has disclosed conditions of such significance that an extensive study of the distribution and frequency of the parasite in the region in question has been undertaken by the state board of health of Minnesota. Recent work under the grant has demonstrated the presence of the worm in Iowa and Nebraska. The structure of the larva is being studied to discover, if possible, characteristics by means of which it may be differentiated from other cestode larvae in food fish. The following articles have been published: Essex, H. E.: On the Life History of Bothriocephalus Cuspidatis Cooper, 1927: A Tapeworm of the Wall-Eyed Pike, *Tr. Am. Microscop. Soc.* **47**: 348, 1928. Hjortland, A. L.: On the Structure of an Adult Triaenophorus Robustus, *J. Parasitol.* **15**: 38, 1928. Ward, H. B.: Studies on the Broad Fish Tapeworm in Minnesota, J. A. M. A. **92**: 389 (Feb. 2) 1929.

Grant 115, 1927: $100 to J. E. Else, University of Oregon School of Medicine, for experimental work on the surgery of the esophagus. Else, J. E.: Carcinoma of the Esophagus, *Northwest Med.* **28**: 25, 1929.

Grant 117, 1927: $250 to W. H. Hunter, University of Oregon School of Medicine, for study of experimental chronic nephritis.

Grant 118, 1927: $1,000 to Edward Reynolds and E. A. Hooton, Harvard University, for study of the mechanism of erect posture.

Grant 133, 1928: $715 to F. L. Dunn, University of Nebraska, for spectrophotometric analysis of biologic fluids.

Grant 135, 1928: $300 to G. A. Talbert, University of North Dakota, for study of constituents common to the sweat, the blood and the urine (continuation of grants 104 and 122, 1927). The work under this grant has been merged into that under grant 153, 1929.

Grant 140, 1928: $400 to Bernhard Steinberg, Toledo Hospital, for study of recovery from experimental peritonitis. Steinberg, Bernhard; and Goldblatt, Harry: Production of Active Immunity Against the Fatal Outcome of Experimental Fecal Peritonitis, *Arch. Int. Med.* **42**: 415, 1928. Steinberg, Bernhard; and Snyder, D. A.: Immune Cellular Reactions in Experimental Acute Peritonitis, *Arch. Path.* **8**: 419, 1929. Sternberg, Bernhard: The Cause of Death in Acute Diffuse Peritonitis, *Proc. Soc. Exper. Biol. & Med.* **28**: 59, 1930.

Grant 143 and 146, 1928: $568.61 to W. R. Tweedy, Loyola University School of Medicine, Chicago, for work on purifying the parathyroid hormone. Tweedy, W. R., and Chandler, S. B.: Studies on the Blood Plasma Calcium of Normal and Parathyroidectomized Albino Rats, *Am. J. Physiol.* **88**: 754, 1929. Tweedy, W. R.: Studies on the Plasma Calcium-Raising Principle of Bovine Parathyroid Glands, *J. Biol. Chem.* **88**: 649, 1930.

Grant 147, 1928: $1,000 to A. V. Hardy, State Hygienic Laboratories, Iowa City, for work on the bacteriology of undulant fever. Hardy, A. V.; Hudson, M. G., and Jordan, C. F.: The Skin as a Portal of Entry in Brucella Melitensis Infections, *J. Infect. Dis.* **45**: 271, 1929. Hardy, A. V., and others: Undulant Fever with Special Reference to Study of Brucella Infection in Iowa, *Public Health Rep.* **45**: 2433, 1930. Hardy, A. V., and others: National Institute of Health Bulletin number 158, 1931.

Grant 158, 1929: $2,000 to G. R. LaRue and A. S. Warthin, University of Michigan, for work on the broad tapeworm in continuation of work under grants 96, 1926, and 131, 1928. The work is in progress. Vergeer, Teunis: Causes Underlying Increased Incidence of Broad Tapeworm in Man in North America, J. A. M. A. **95**: 1579 (Nov. 22) 1930.

Grant 160, 1929: $500 to Helen Bourquin, University of Michigan, for work on diuretic substance of experimental diabetes insipidus and the study of its properties, in continuation of the work under grants 120, 1927, and 102, 1926.

Grant 162, 1929: $100 to J. P. Simonds, Northwestern University Medical School, for a study of the action of cinchophen and its derivatives on the liver.

Grant 163, 1929: $750 to George Hermann, Tulane University School of Medicine, for the study of problems of the circulation.

Grant 167, 1929: $500 to Hans Jensen, Johns Hopkins University, for aid in the chemical and physiologic study of toad poisons. Jensen, Hans; and Chen, K. K.: Chemical Studies on Toad Poisons, *J. Biol. Chem.* **87**: 741, and 755, 1930.

Grant 171, 1929: $2,500 to National Research Council, for the study of undulant fever under the auspices of the council's committee on infectious abortion. Active work is in progress at the Central Brucella Station, Michigan State College, East Lansing.

ADDENDA TO REPORT OF THE BOARD OF TRUSTEES

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ending Dec. 31, 1930

Reserve Invested as at Dec. 31, 1929	$834,113.50	
Bonds Purchased (cost)	75,818.50	
	$909,932.00	
Less Bonds Exchanged	14,100.00	$895,832.00
Balance for Investment Dec. 31, 1929	$ 42,406.42	
Interest on Investment	36,989.00	
Interest on Monthly Bank Balance	1,240.55	
	$ 80,635.97	
Less Treasurer's Check on Bonds Purchased	61,800.56	18,835.41
Invested and Uninvested Reserve as at Dec. 31, 1930		$914,667.41

DAVIS MEMORIAL FUND

Balance Fund Dec. 31, 1929	$ 5,908.62
1930 Interest on Bank Balance	178.57
Total Fund as at Dec. 31, 1930, on Deposit	$ 6,087.19

AUSTIN A. HAYDEN, Treasurer.

AUDITOR'S REPORT

January 16, 1931.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1930, and have prepared therefrom, and append hereto, the statements undermentioned:

Exhibit "A"—Balance Sheet, as at December 31, 1930.
Exhibit "B"—Income Account, for the year ended December 31, 1930.

Schedules, for the year ended December 31, 1930:

Schedule "1"—Journal Operating Expenses.
Schedule "2"—Association and Miscellaneous Expenses.

We certify that the Balance Sheet and Income Account correctly present, in our opinion, the financial position of the Association as at December 31, 1930, and the results of its operations for the year ended on that date, subject to the following qualifications:

(1) The Inventories of Materials, Supplies and Work in Progress, $83,318.84, are stated in accordance with affidavits sworn to by responsible officials of the Association and have not been verified by us in any way.

(2) In accordance with the established practice of the Association, no provision has been made for (a) accrued interest on bonds, (b) memberships due and unpaid, (c) accrued salaries and wages, and (d) accrued taxes.

(3) Depreciation has been computed on diminishing values at rates which normally apply to cost of equipment.

(4) Subscriptions paid in advance represent an estimated amount based on cash receipts for subscriptions for year 1931, received from December 8, to December 31, 1930, inclusive. The same method has been used in previous years.

(5) Advance payments on publications represent an estimated amount of prepaid subscriptions to Hygeia, $127,048.65, plus $25,201.27 received in advance for January advertising and directory service.

There are certain lawsuits pending against the Association, or against some officer for whose alleged libel the Association is sought to be made liable. We have received a letter from the attorneys of the Association to the effect that the claims, while large in amount, are not likely to be sustained if the experience of the Association in dealing with such matters during the last twenty-five years is taken as a criterion.

We have pleasure in reporting that the books are maintained in excellent condition and that every facility was afforded us for the proper conduct of the audit.

Yours truly,
PEAT, MARWICK, MITCHELL & CO.

EXHIBIT "A"

BALANCE SHEET AS AT DECEMBER 31, 1930

ASSETS:		
Property and Equipment (at cost, less depreciation):		
Real Estate and Buildings		$ 878,496.44
Machinery		112,229.90
Type and Metal		13,813.32
Furniture and Equipment		60,610.80
Chemical Laboratory		3,254.10
Library		419.41
Total Property and Equipment		$1,068,823.97
Deposit on Machinery Purchase Contract (involving further expenditure of $59,500.00)		10,500.00
Investments (at cost):		
U. S. Government Securities	$ 288,332.75	
Railroad, Municipal and other bonds	607,499.25	895,832.00
Cash held by Treasurer for Investment		18,835.41
Cash in Bank and on Hand—General Account		200,620.29
Temporary Investments—Certificates of Deposit		600,000.00
Accounts receivable:		
Advertising	$ 77,634.93	
Co-operative Medical Advertising Bureau	11,705.08	
Reprints	5,926.44	
Miscellaneous	10,749.95	106,016.40
Inventories of Materials, Supplies and Work in Progress		83,318.84
Expenditures on Publications in Progress		97,031.62
Prepaid Expenses—Insurance, etc		3,377.74
Total		$3,084,356.27

LIABILITIES:		
Accounts Payable:		
Co-operative Medical Advertising Bureau	$	11,058.32
Miscellaneous		21,291.91
	$	32,350.23
Subscriptions paid in Advance		97,386.49
Advance Payments on Publications		152,249.92
Net Worth:		
Association Reserve Fund	$ 250,000.00	
Capital Account:		
Amount thereof as at December 31, 1929	$2,142,643.99	
Net Income for the year ended December 31, 1930	409,725.64	2,552,369.63
Net Worth as at December 31, 1930		2,802,369.63
Total		$3,084,356.27

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1930

JOURNAL:		
Gross Earnings:		
Fellowship Dues and Subscriptions		$ 615,279.47
Advertising		1,006,118.14
Jobbing		102,683.65
Reprints		4,924.55
Books		12,445.11
Insignia		5,874.43
Miscellaneous Sales		8,997.22
Interest		16,897.61
Gross Earnings from Journal		$1,773,220.18
Operating Expenses—Schedule "1"		993,174.25
Net Earnings from Journal		$ 780,045.93
Miscellaneous Income:		
Rents	$ 1,200.00	
Sundry Publications	46,810.80	48,010.80
Association Income:		
Income from Investments	$ 38,291.49	
New Property	8,487.44	
Miscellaneous	318.14	47,097.07
Gross Income		$ 875,153.80
Association Expenses—Schedule "2"	$316,656.37	
Miscellaneous Expenses—Schedule "2"	148,771.79	465,428.16
Net Income		$ 409,725.64

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1930

Wages and Salaries			$470,784.76
Editorials, News and Reporting			12,765.00
Paper—Journal Stock			260,803.56
Paper—Miscellaneous			4,918.40
Electrotypes and Engravings			22,614.26
Binding			926.70
Ink			5,079.91
Postage—First Class			31,438.63
Postage—Second Class			58,554.81
Journal Commissions			7,256.52
Collection Commissions			1,756.73
Discount			32,149.29
Express and Cartage			4,992.72
Exchange			3,138.87
Office Supplies			2,375.96
Telephone and Telegraph			2,811.21
Office Jobbing			8,040.38
Power and Light			7,034.01
Factory Supplies			8,384.15
Repairs and Renewals—Machinery			6,860.90
Loss on Bad Debts			5,095.12
Miscellaneous Operating Expenses			15,662.45
Total Journal Operating Expenses before provision for depreciation			$973,444.34
Depreciation on Equipment:			
Machinery	* 10%	$12,470.00	
Furniture and Equipment	10%	5,385.07	
Factory Equipment	10%	1,349.47	
Type	10%	525.37	19,729.91
Total Journal Operating Expenses			$993,174.25

* All depreciation is computed on diminishing balances.

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1930

Association Expenses:	
Association	$ 92,747.49
Health and Public Instructions	26,512.70
Pharmacy and Chemistry	28,731.98
Chemical Laboratory	26,156.21
Medical Education and Hospital	56,780.32
Organization and Field Secretary	3,778.78

Therapeutic Research	3,102.76
Legal Medicine and Legislation	31,677.00
Bureau of Investigation	21,676.13
Physical Therapy	10,756.98
Central Scientific Exhibit	6,543.40
New Property	7,830.86
Laboratory Depreciation—10%	361.56
Total Association Expenses	$316,656.37

Miscellaneous Expenses:	
Insurance and Taxes	$ 21,149.36
Legal and Investigation	22,463.76
Building Expenses	30,929.15
Building Depreciation (2% on diminishing balances)	11,308.35
Fuel	5,429.32
Sundry Publications	57,445.25
Library Depreciation (10% on diminishing balances)	46.60
Total Miscellaneous Expenses	$148,771.79

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

The Judicial Council has held two meetings since the last annual session. During the year the Council has made official decision in a case of appeal from the rulings of the council and the house of delegates of a constituent state society and has heard the appeal of a component society from the rulings of another constituent state society. Opinions have been rendered in many instances to individual members and to the officers of county societies and state associations from whom requests have been received.

Whether it be due to economic conditions now existing or to changing relations in medicine, it is a noteworthy fact that many of the questions submitted to the Judicial Council are new questions and that there are no precedents to serve in their solution. It is also noteworthy that many of them have to do with the relations of physicians to the hospital and with relations of the hospital and the members of the hospital staff to the public.

Collection and Appropriation of Physicians' Fees by Hospitals

It has been brought to the attention of the Judicial Council that some hospitals have adopted rules whereby attending staff physicians are prohibited, under certain conditions, from accepting fees for professional services, though charges for such services are made and fees are collected and appropriated to their own use by these hospitals. In one instance, members of a hospital staff were prohibited from the collection of fees for services rendered to certain ward patients, who were required to pay for hospital accommodations and to pay for service rendered by members of its staff, the hospital retaining all money collected for its own use. Inquiries received indicate a tendency on the part of some hospitals to adopt rules providing for the collection of all fees by hospital officials and payment by them to attending physicians for their professional services to patients. The Judicial Council, on request, in one case gave its opinion to the effect that such procedure on the part of a hospital is unethical.

Hospital and Health Associations

In reports previously submitted to the House of Delegates, the Council has referred to organizations controlled by groups of laymen, or by individuals, offering medical and hospital service to any who will buy "membership" and pay a nominal sum each month as "dues." Such schemes have been put into operation in various places and have failed within a few weeks or months because of inadequate income or because of failure to render good service. The Judicial Council has regarded these schemes as being economically unsound, unethical and inimical to the public interest.

Within the last year, some community hospitals have announced their intention to provide medical, surgical and hospital service to families on a flat rate basis. In at least one instance, such service has been offered to families for $35 a year, irrespective of the number of members in such families. In most instances, certain exceptions are made in that persons with chronic diseases are not entitled to receive the benefits of the plan and obstetric service is not supplied without additional compensation. The members of the Judicial Council doubt that it is wise to lead the people in any community to believe that all necessary medical and hospital service, even though chronic diseases and obstetric care be excepted, can be provided for the average family for $35 a year. In the cases presented to it the Judicial Council has advised against the adoption of such plans by community hospitals because it is believed that they are not economically sound in that they may be unfavorably affected by conditions entirely beyond control under which contracts cannot be fulfilled. There are other aspects of the matter that readily present themselves for consideration involving the interests of physicians in the community who cannot participate in such plans.

Corporation Practice

The Council has not undertaken any comprehensive studies of corporation practice because this body is not properly equipped for such purposes. This is an important subject and the Council is pleased to know that the Bureau of Medical Economics will make studies of this field.

An important decision dealing with corporation practice was handed down by the Superior Court of the State of California speaking through Judge Samuel R. Blake, a member of that Court, in the case of *The People of the State of California on the Relation of Granville McGowan, Plaintiff*, v. *Medical Service Corporation, a Corporation, Defendant.* A digest of the opinion in this case appeared in *California and Western Medicine* and was reproduced in the American Medical Association Bulletin for December, 1930. The Court held that "The right to practice medicine attaches to the individual and dies with him, and it cannot be made a subject of business sheltered under the cloak of corporation having marketable shares descendable under the laws of inheritance." The Court concluded that the acts "enumerated and done by the defendant corporation constitute practicing a system of medicine, or mode of treating the sick and afflicted in this state, within the meaning of the Medical Practice Act, and, therefore, is in violation of law." This conclusion of the court followed upon a statement in the opinion that "The corporate cannot, of course, as a corporation, pass the medical board examination and can only act through its agents." It was further stated in the opinion of the court that "The fact that the Workmen's Compensation Act compels all employers to furnish medical and surgical aid to the injured in the course of their employment does not offer any reason for a corporation to engage in the practice of medicine." Other significant statements in the opinion rendered through Judge Blake were as follows: "If, in the last analysis, corporations are allowed to practice medicine as a general proposition, it is the opening wedge to the commercialization of the practice of the learned profession of medicine, and permits the creeping in of many unethical and uncontrollable factors which the law has heretofore rigidly sought to avoid. One of the main objections to allowing a corporation to practice medicine would be unquestionably the inability of the state to control the practice of medicine by a corporation as it does control it now under the Medical Practice Act, as each member of the profession comes directly under the Medical Practice Act and the corporation herein does not. Unprofessional conduct on behalf of the corporation could not be reached, such as aiding or betraying a professional secret, advertising, or offenses involving moral turpitude, and many others too numerous to mention."

The Judicial Council regards this decision of the Superior Court of the State of California as being of the greatest importance at a time when *commercial organizations established for profit* are engaging in the sale of medical service in a manner that may be detrimental to the public good and opposed to the progress of scientific medicine.

The Judicial Council is advised also that the secretary of the state of Tennessee, acting on advice of the state attorney general, has recently refused to issue a charter under which a corporation would be permitted to engage in the practice of medicine.

Respectfully submitted.

George Edward Follansbee, Chairman.
J. N. Hall.
Donald Macrae, Jr.
F. W. Cregor.
James B. Herrick.
Olin West, Secretary, ex officio.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

A. MEDICAL EDUCATION

1. *Educational Number of The Journal.*—The Educational Number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, published Aug. 16, 1930, was divided into three sections: Part I, Premedical Education; Part II, Medical Education, and Part III, Hospital Intern Service. The first and third sections were new departures. In regard to premedical education, statistics were published showing that 91.6 per cent of the students admitted to the freshman class in the fall of 1929 had attended approved premedical schools. Of the small number who came from colleges not approved, about 65 per cent had obtained baccalaureate degrees or other higher credits. The majority of students accepted from nonapproved colleges, therefore, either had obtained such higher degrees or presented other credits. As has been reported previously, the Council draws up its list of approved premedical colleges from the approved lists of the following accrediting organizations:

Association of American Universities.
North Central Association of Colleges and Secondary Schools.
Association of Colleges and Secondary Schools of the Middle States and Maryland.
New England Association of Colleges and Secondary Schools.
Association of Colleges and Secondary Schools of the Southern States.
Northwest Association of Secondary and Higher Schools.

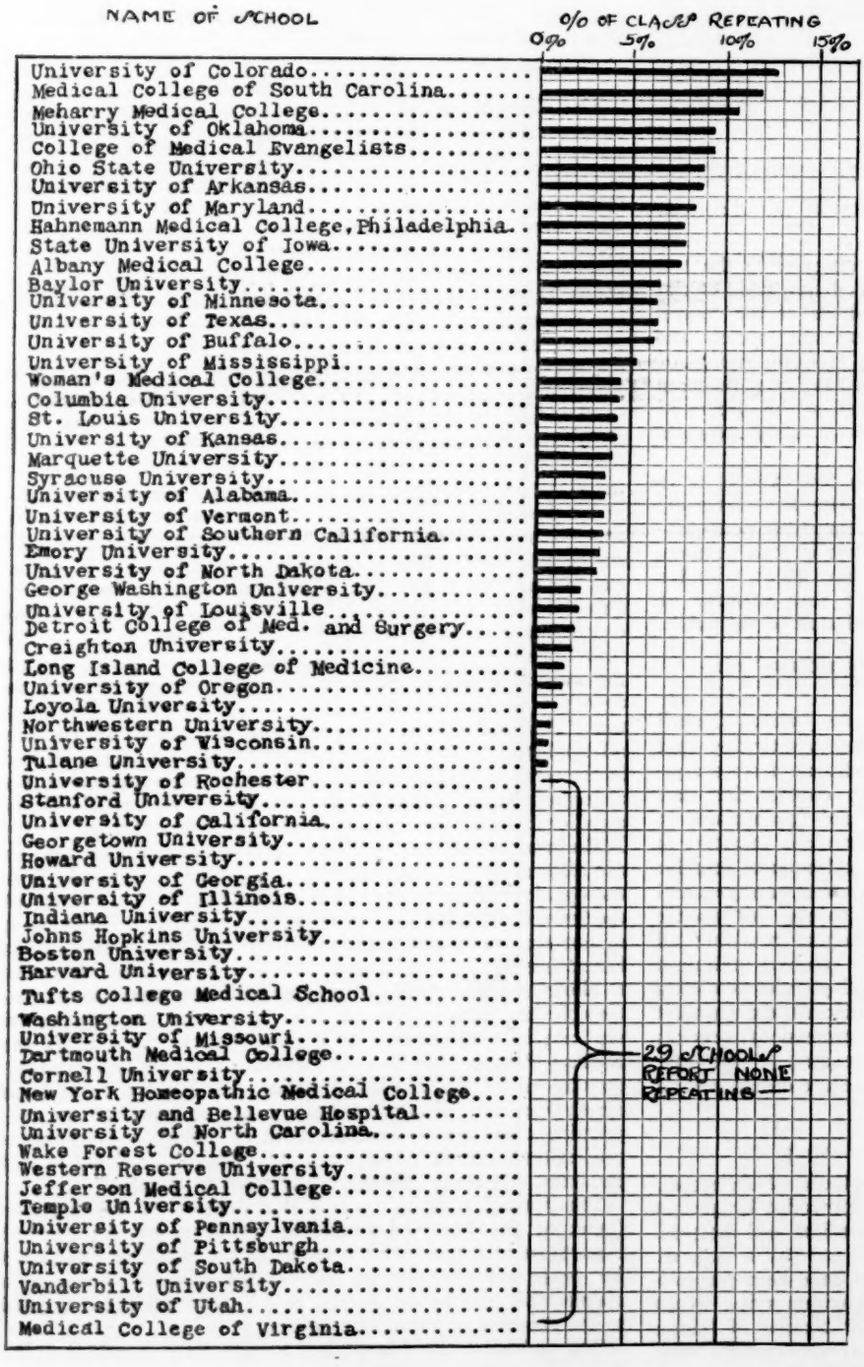


Chart No. 1 shows the percentage of the first year class who are repeating the work of the previous year in 66 medical schools. The black lines representing these percentages indicate the wide variation in the policies of the different schools in regard to giving the student another chance. Some of them are extremely liberal, perhaps feeling that orientation in the first year is more difficult for some students than for others. Others are ultraconservative, having evidently adopted the attitude that there are so many first class applicants at hand that time should not be wasted on the student who cannot maintain his averages. Still others strike a happy medium allowing a few students to repeat the first year, holding this number down to a small percentage of the class.

The report on the hospital internship contained data collected from answers to questionnaires from 1,491 physicians who had recently served internships. The section on medical education proper contained material largely similar to that published in previous years.

2. *Organization and Administration.*—Owing to the enlargement of the work devolving on the Council and at the request of the Council members, at a business meeting held in Washington in October, 1930, the chairman appointed several subcommittees. Since that date, each matter of importance has first been carefully reviewed by the respective subcommittee and the report then presented to the Council as a whole for further discussion and action.

3. *Osteopathic Schools.*—In the fall of 1930, appeals were received from several state medical societies (Idaho, Michigan, Montana, Ohio and Washington) requesting first hand information on osteopathic education, as the osteopaths in their respective states were planning to introduce unwarranted legislation which would broaden the scope of their practice. The Council appointed representatives in various parts of the country to investigate the six osteopathic colleges reported recognized by the American Osteopathic Association. These collected reports were sent to the various state medical societies that had applied for information.

4. *Medical Licensure.*—For the twenty-eighth consecutive year statistics regarding examinations held by state licensing boards were published in THE JOURNAL of April 25, 1931, on pages 1387 to 1400, inclusive. These statistics covered the year 1930.

(*a*) There were 7,548 physicians licensed to practice medicine and surgery in 1930 as compared with 7,702 in 1929.

(*b*) Very little legislation relating to medical licensure was passed during 1930 owing to the fact that many of the state legislatures were not in session. New York amended its medical practice act to read that each applicant must have completed four courses of at least eight months each in a medical school, the law formerly stating that the course must have been taken in four separate calendar years.

(*c*) Comparisons with the figures for other years showed that an increasing proportion of the physicians licensed were candidates of approved medical colleges, candidates from low grade or unrecognized medical schools being more and more frequently refused examination.

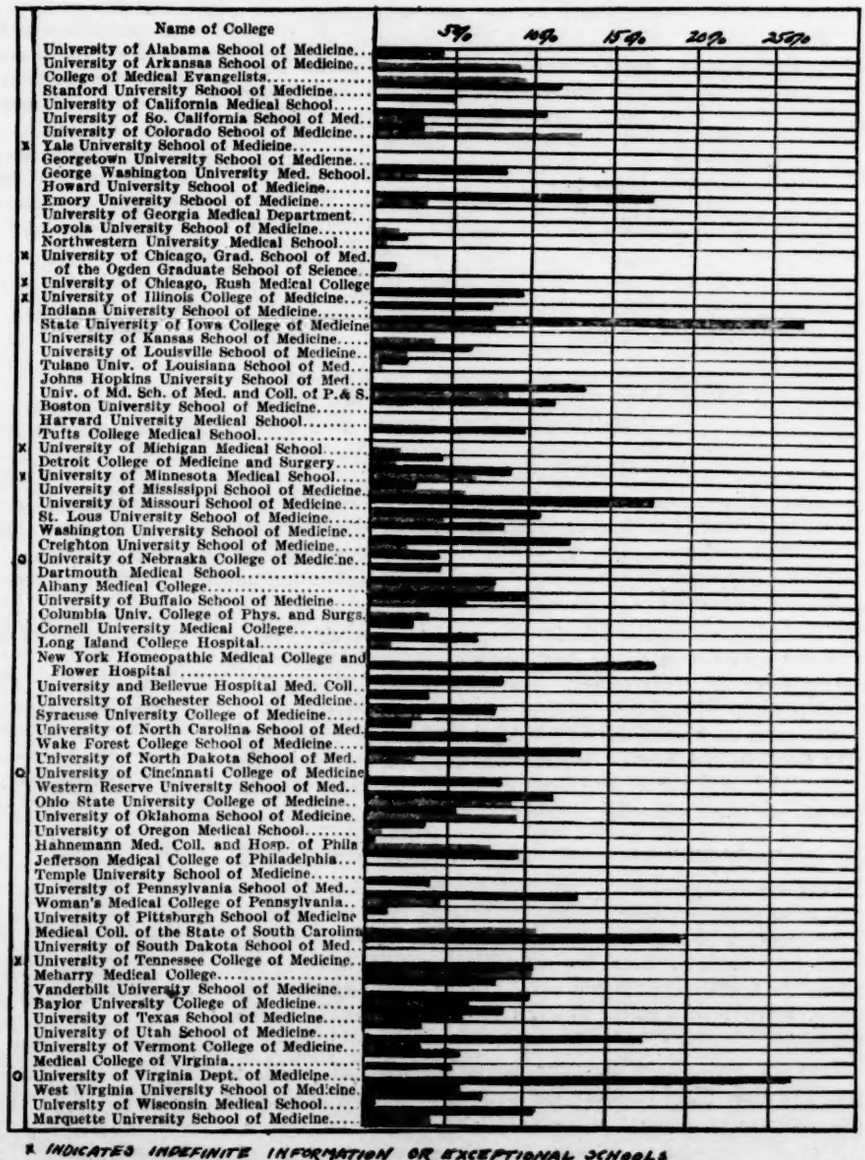
(*d*) Particular attention was called to the five states which licensed the greatest number of poorly qualified candidates during 1930, namely, California, Colorado, Illinois, Massachusetts and Texas. Comparisons with previous years were also made for each of these states showing whether or not improvement in this respect had taken place.

5. *Annual Congress.* — Four hundred and seven physicians, medical educators, hospital administrators, state board officers and members, nurses and others registered at the Annual Congress on Medical Education, Medical Licensure and Hospitals held in Chicago, February 16, 17 and 18. A large part of the program was devoted to papers dealing with the care of patients with nervous and mental diseases, mental hygiene and the teaching of psychiatry. Attention was focused on these subjects as a result of the two resolutions passed by the House of Delegates last year which called for an investigation of nervous and mental institutions throughout the country. Another part of the program consisted of papers on medical education and hospital problems. Other organizations participating in the congress were the Council on Physical Therapy of the American Medical Association, the Federation of State Medical Boards of the United States, the American Conference on Hospital Service and the Central Council for Nursing Education. These bodies conducted meetings in which their particular problems were discussed.

6. *Medical Colleges.* — University of Southern California School of Medicine: When the University of Southern California School of Medicine was opened in 1928, the dean was enabled to secure a corps of well qualified teachers under the belief that other needed improvements would be made. For that reason at a business meeting of the Council on Medical Education and Hospitals of the American Medical Association held in June, 1930, the Council voted that an acceptable rating be granted for the students who had completed their first two years of medical work in this institution during the years 1928-1929 and 1929-1930, but an acceptable rating for the medical school was withheld in the hope that further improvements deemed essential would be made. Recent information, however, indicated that further improvements deemed essential had not been been adopted so that, at the Council's business meeting held Feb. 15, 1931, the Council had no alternative than to remove the medical school from its approved list. On March 28, however, a conference with the president of the university made it probable that the essential improvements may still be brought about whereby a more favorable consideration of this medical school may be deserved.

University of Mississippi School of Medicine: Early in July, 1930, reports were received indicating that sweeping changes had been made in the administration and teaching staff of the University of Mississippi. The Council at once recognized the seriousness of the situation as it applied to the medical school and called the attention of the governor of Mississippi to the fact that the institution recognized by this Council no longer existed in fact, and that before a new institution could be recognized it would need to be thoroughly inspected. This was followed, however, by the prompt restoration of most of the original personnel to their positions on the medical faculty. At its business meeting, Oct. 15, 1930, therefore, the Council voted that the approval of this medical school be held in abeyance until the effect of the recent changes could be determined. Since that time the Council has received considerable correspondence from prominent physicians and others in Mississippi requesting the Council to hold the approval of this school in abeyance until the next governor and legislature of Mississippi are elected, which will be in January, 1932, after which it is expected that favorable developments will occur. After due consideration, the Council, at its meeting, February 15, voted that the approval of the school be continued provisionally pending further developments.

■ INDICATES % OF CLASS DROPPED FOR SCHOLARSHIP
■ INDICATES % OF CLASS REPEATING YEAR


Name of College
5%
10%
15%
20%
25%
University of Alabama School of Medicine
University of Arkansas School of Medicine
College of Medical Evangelists
Stanford University School of Medicine
University of California Medical School
University of So. California School of Med.
University of Colorado School of Medicine
Yale University School of Medicine
Georgetown University School of Medicine
George Washington University Med. School
Howard University School of Medicine
Emory University School of Medicine
University of Georgia Medical Department
Loyola University School of Medicine
Northwestern University Medical School
University of Chicago, Grad. School of Med. of the Ogden Graduate School of Science
University of Chicago, Rush Medical College
University of Illinois College of Medicine
Indiana University School of Medicine
State University of Iowa College of Medicine
University of Kansas School of Medicine
University of Louisville School of Medicine
Tulane Univ. of Louisiana School of Med.
Johns Hopkins University School of Med.
Univ. of Md. Sch. of Med. and Coll. of P.& S.
Boston University School of Medicine
Harvard University Medical School
Tufts College Medical School
University of Michigan Medical School
Detroit College of Medicine and Surgery
University of Minnesota Medical School
University of Mississippi School of Medicine
University of Missouri School of Medicine
St. Louis University School of Medicine
Washington University School of Medicine
Creighton University School of Medicine
University of Nebraska College of Medicine
Dartmouth Medical School
Albany Medical College
University of Buffalo School of Medicine
Columbia Univ. College of Phys. and Surgs.
Cornell University Medical College
Long Island College Hospital
New York Homeopathic Medical College and Flower Hospital
University and Bellevue Hospital Med. Coll.
University of Rochester School of Medicine
Syracuse University College of Medicine
University of North Carolina School of Med.
Wake Forest College School of Medicine
University of North Dakota School of Med.
University of Cincinnati College of Medicine
Western Reserve University School of Med.
Ohio State University College of Medicine
University of Oklahoma School of Medicine
University of Oregon Medical School
Hahnemann Med. Coll. and Hosp. of Phila
Jefferson Medical College of Philadelphia
Temple University School of Medicine
University of Pennsylvania School of Med.
Woman's Medical College of Pennsylvania
University of Pittsburgh School of Medicine
Medical Coll. of the State of South Carolina
University of South Dakota School of Med.
University of Tennessee College of Medicine
Meharry Medical College
Vanderbilt University School of Medicine
Baylor University College of Medicine
University of Texas School of Medicine
University of Utah School of Medicine
University of Vermont College of Medicine
Medical College of Virginia
University of Virginia Dept. of Medicine
West Virginia University School of Medicine
University of Wisconsin Medical School
Marquette University School of Medicine

* INDICATES INDEFINITE INFORMATION OR EXCEPTIONAL SCHOOLS
● INDICATES PART OR ALL OF REPORT MISSING

Chart No. 2 again shows the percentage of the first year class repeating the year and also the percentage dropped on account of poor scholarship. In most cases there are a great many more students being dropped than are allowed to repeat. It is probable that those schools which are compelled to drop over 15 per cent of the first year class on account of scholarship need to employ better methods of selecting students. Even those who must drop over 10 per cent are perhaps not employing the best methods of selection.

Although inspection of medical schools on the Council's approved list are perhaps not as necessary as frequently as formerly, the Council still holds it to be one of its essential duties. Several schools have been visited during the past few months and recommendations for the betterment of medical teaching have been made in some instances.

7. *Investigation of the Number of Students Dropped by Medical Schools on Account of Poor Scholarship and of Those Who were Allowed to Repeat Courses.*—The Council has made a study of "repeaters" and "failures" in medical schools and submits charts 1 and 2 for your consideration.

8. *Essentials of an Acceptable Medical College.*—The reprint "Essentials of an Acceptable Medical College" has recently been revised and is submitted herewith for your information.

New methods and ideas in medical education which have proved of value are always incorporated in the Council's "Essentials of an Acceptable Medical College" as soon as is deemed advisable and some of the newer precepts will be adopted as time shall have proved their worth. It should be remembered, furthermore, that the Council's attitude toward the medical schools is not an arbitrary one, but rather one of helpfulness by way of suggestion. In view of the continued influence of the American Medical Association in matters of medical education, this revision is necessary. Its importance can hardly be overemphasized in the light of the recent demonstrations of political interference with medical education in certain states. The amended "Essentials" follow:

ESSENTIALS OF AN ACCEPTABLE MEDICAL COLLEGE

I. Entrance Requirements

The minimum requirement for admission to an acceptable medical college is a four-year high school education or its full equivalent and two years of work in a college of arts and sciences approved by the Council on Medical Education and Hospitals, as follows:

The minimum requirement for admission to acceptable medical schools, in addition to the high school work specified, will be sixty semester hours of collegiate work, exclusive of military and physical education, extending through two years of thirty-two weeks each exclusive of holidays, in a college approved by the Council on Medical Education and Hospitals. The subjects included in the two years of college work, should be in accordance with the following schedule.[1]

SUGGESTIONS REGARDING INDIVIDUAL SUBJECTS

(*a*) *Chemistry.*—Twelve semester hours required, of which at least eight semester hours must be in general inorganic chemistry, including four semester hours of laboratory work; and four semester hours in organic chemistry, including two semester hours of laboratory work. In the interpretation of this rule, work in qualitative analysis may be counted as general inorganic chemistry.

(*b*) *Physics.*—Eight semester hours required, of which at least two must be laboratory work. It is urged that this course be preceded by a course in trigonometry.

(*c*) *Biology.*—Eight semester hours required, of which four should consist of laboratory work. This requirement may be satisfied by a course of eight semester hours in either general biology or zoology, or by courses of four semester hours each in zoology and botany, but not by botany alone.

(*d*) *English Composition and Literature.*—The usual introductory college course of six semester hours, or its equivalent, is required.

(*e*) *Nonscience Subjects.*—Of the sixty semester hours required as the measurement of two years of college work, at least eighteen, including the six semester hours of English, should be in subjects other than the physical, chemical or biologic sciences.

(*f*) *Foreign Language.*—A reading knowledge of a modern foreign language is strongly urged. French and German have the closest bearing on modern medical literature. If the reading knowledge in one of these languages is obtained on the basis of high school work, the student is urged to take the other language in his college course. It is not considered advisable, however, to spend more than twelve of the required sixty semester hours on foreign languages.

(*g*) *In General.*—This premedical course in both quantity and quality must be such as to make it acceptable as the equivalent of the first two years of the course leading to the degree of Bachelor of Science or Bachelor of Arts in approved colleges of arts and sciences.

Schedule of Subjects of the Two-Year Premedical College Course

Sixty Semester Hours * Required

Required Subjects:	Semester Hours
Chemistry (*a*)	12
Physics (*b*)	8
Biology (*c*)	8
English composition and literature (*d*)	6
Other nonscience subjects (*e*)	12
Subjects Strongly Urged:	**Semester Hours**
A modern foreign language (*f*)	6–12
Advanced botany or advanced zoology	3– 6
Psychology and logic	3– 6
Advanced mathematics, including algebra and trigonometry	3– 6
Additional courses in chemistry	3– 6
Other Suggested Electives:	
English (additional), economics, history, sociology, political science, mathematics, Latin, Greek, drawing.	

* A semester hour is the credit value of sixteen weeks' work consisting of one lecture or recitation period per week, each period to be not less than fifty minutes net, at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

APPROVED COLLEGES OF ARTS AND SCIENCES

A list of colleges of arts and sciences approved by the Council on Medical Education and Hospitals has been prepared and will be frequently revised. By an approved college (of arts and sciences) is meant one whose standing has been vouched for by some standardizing agency in whose methods the Council has confidence. Colleges of liberal arts and sciences which have been approved by their district association, or by the Association of American Universities, are considered as acceptable to the Council on Medical Education and Hospitals. Other colleges of known reputability may also be considered where the students present extra credits and exceptionally high grades.

PREMEDICAL COURSES IN PROFESSIONAL COLLEGES

Premedical college courses given in or by professional schools, by normal schools, or advance years taken in high schools, will not be considered as acceptable unless the student's credentials are certified by the registrar of the state university of the state in which the college is located, as the equivalent of the first two years of the course leading to the degree of Bachelor of Science or Bachelor of Arts in colleges approved by the state university.

II. Certification of Entrance Requirements

The admission of students to the medical school must be in the hands of a responsible committee or examiner whose records

1. This schedule was prepared by a special committee as follows: chairman, Kendric C. Babcock, Ph.D., provost of the University of Illinois, Urbana, formerly specialist in higher education, United States Bureau of Education, Washington, D. C.; George Gailey Chambers, Ph.D., entrance examiner, University of Pennsylvania; Theodore Hough, Ph.D., dean of the University of Virginia Department of Medicine; W. F. R. Phillips, M.D., professor of anatomy, Medical College of the State of South Carolina; N. P. Colwell, M.D., secretary of the Council on Medical Education and Hospitals of the American Medical Association. Dr. Babcock, the chairman, was an active member of the Commission on Higher Institutions of the North Central Association of Colleges and Secondary Schools. At the time the committee was meeting, the University of Pennsylvania held the presidency of the Association of American Universities. As will be noted, therefore, the schedule was determined by very efficient representatives of the associations of colleges and universities.

shall always be open for inspection. Documentary evidence of the student's preliminary education should be obtained and kept on file. When the medical school is an integral part of the university, this work usually devolves on the university examiner. Unless the university examiner and his records are closely accessible, however, some officer at the medical school should obtain and keep on file documentary evidence of each student's preliminary education, including both high school and collegiate work. The records should show especially that the required amount of work in the premedical sciences, including laboratory experiments, has been completed.

III. Other Requirements

The college should require that students be in actual attendance within the first week of each annual session and thereafter.

Actual attendance at classes should be insisted on except for good cause, such as for sickness, and no credit should be given for any course when the attendance has been less than 80 per cent of the full time.

Full advanced standing may be granted to students for work done in other acceptable medical schools, and in granting advanced standing there should be no discrimination against the college's full-course students. Official verification of the student's previous medical work should be obtained by direct correspondence with the college previously attended, and his preliminary qualifications should also be verified and recorded the same as for freshman students.

IV. Administration and Curriculum

There should be careful and intelligent supervision of the entire school by the dean or other executive officer who has sufficient authority to carry out fair ideals of medical education as determined by the present-day knowledge of medicine.

There should be a good system of records showing conveniently and in detail the credentials, attendance, grades and accounts of the students, by means of which an exact knowledge can be obtained regarding each student's work. Records should also be kept showing readily the attendance of students at the teaching hospitals and dispensaries and the maternity and postmortem cases attended.

The courses offered in the various subjects should be set forth by departments (anatomy, physiology, etc.) in the annual announcement, showing for each course its number, subject, content, character (lecture, recitation, laboratory or clinic), length of time, when, where and by whom given, and the amount of credit allowed. The courses for each class should also be clearly set forth in a printed class schedule, for the guidance of the students.

The medical course should cover a minimum of 3,600 hours, the first half of which should consist of studies in the basic sciences; namely, anatomy, histology, embryology, physiology, physiologic chemistry, bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis. The college must provide adequate classrooms and laboratories fitted with modern equipment for the pursuit of these studies. It is urged that the students be brought into contact with the patient early in his medical course. The latter half of the curriculum consists of clinical work in hospitals and dispensaries, with courses in medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence.

Several of the medical schools now require an internship for graduation. Where it is not required it should be strongly urged and graduates should be assisted as far as is possible in securing internships in hospitals approved by the American Medical Association.

V. Faculty

The college should maintain ten or more thoroughly trained professors in the laboratory branches, on such salaries that they may devote their entire time to the work and to that research without which they cannot well keep up with the rapid progress being made in their subjects. For colleges having sixty students or less in each class, there should be at least one full time salaried assistant each in the departments of (1) anatomy, (2) physiology, (3) pathology and bacteriology, (4) physiologic chemistry and (5) pharmacology. There should be also one additional assistant provided in each of these departments for each additional thirty students enrolled. This represents a low average of the full time assistants already employed by the medical colleges now listed as acceptable.

The faculty should be largely made up of graduates of recognized medical colleges who have had training in all departments of medicine. Nonmedical men should be selected as teachers in medical schools only under exceptional circumstances and only when medical men of equal special capacity are not available. The faculty should be organized, each department having its professor,[2] is associate professor, assistant professor, instructor, etc.

VI. Clinical Facilities and Instruction

The college should own or entirely control a general hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. This hospital should be in close proximity to the college and have a daily average of not less than 200 patients who can be utilized for clinical teaching, these patients to be of such character as to permit the students to see and study the common variety of surgical and medical cases as well as a fair number in each of the so-called specialties. In the use of this material, bedside and ward clinics should be developed for sections of from five to ten students; and, for the seniors, patients in medicine, surgery and the specialties should be assigned to each student under a well supervised clinical clerk system. The treatment and care of these patients should be particularly observed and recorded by the student under the strict supervision of the intern, the resident or the attending staff of the hospital. Histories written by senior students duly revised should be made a part of the hospital records.

The college should also own or control ample hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

The college should own or control a well ordered dispensary, or outpatient department with a daily average attendance of at least 100 patients (visits). Good histories and records of the patients should be kept and the material used in medical instruction. The attending staff should be made up of good teachers, who should be prompt and regular in attendance.

At least ten maternity cases should be provided for each senior student, who should have actual charge of these cases under the supervision of the clinical instructor. A carefully prepared report of each case should be handed in by the student.

Facilities should be provided for at least fifty necropsies during each college session which are attended and participated in by senior students. Other students should be urged to attend. These should be in the teaching hospital controlled by the medical school, performed by the professor of pathology. The material thus secured should be used in connection with clinical pathologic conferences.

VII. Other Teaching Facilities and Finances

The college should have a well conducted medical library, to include the more modern text and reference books with the Quarterly Cumulative Index Medicus, the Surgeon General's Index Catalogue, and serviceable card indexes. The library should receive regularly all of the leading medical periodicals, the current numbers of which should be in racks or on tables easily accessible to the students. At the end of each year these periodicals should be bound and added to the files of bound

2. These professors should have a definite responsibility in the conduct of the college, and their first and chief interest should be the training of medical students. It is suggested that four of these professors be placed at the head of the departments of (*a*) anatomy, (*b*) physiology and physiologic chemistry, (*c*) pathology and bacteriology, and (*d*) pharmacology and therapeutics. The other four might with advantage be assigned, one each, to (*e*) histology and embryology, under the department of anatomy, and to the department of (*f*) pathology and bacteriology, and (*g*) physiology and pharmacology, and to the departments of (*h*) either internal medicine or surgery.

periodicals. The library room should be properly lighted and heated, open during all or the greater part of the day, and in charge of a competent librarian.

There should be a medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that they may be easily found and employed for teaching purposes. With each pathologic specimen coming from postmortems there should also be kept the record of the postmortem, the clinical history of the patient on whom the necropsy was held and microscopic slides showing the minute structures of the disease shown in the gross specimen. The museum furnishes an excellent means of correlating the work of the department of pathology with that of the clinical departments.

There should be sufficient dissecting material to enable each student to dissect at least the lateral half of the human cadaver, to provide cross-sections and other demonstration material and to allow a thorough course for each senior in operative surgery on the cadaver.

For experimental laboratory work, as well as for medical research, a supply of animals is essential. Proper provision is necessary also for the housing and care of such animals. In any use made of animals every precaution should be taken to prevent needless suffering, and work by students should be carefully supervised.

Each college should have such useful auxiliary apparatus as stereopticons, reflectoscopes, microprojectors, carefully prepared charts, embryologic or other models, manikins, dummies for use in bandaging, roentgen-ray apparatus and other apparatus essential in medical teaching.

The college should show evidence of thorough organization and of reasonably modern methods in all departments, and evidences that the equipment and facilities are being intelligently used in the training of medical students.

A clear statement of the college's requirements for admission, tuition, time of attendance in the classes, sessions, courses offered and graduation should be clearly set forth, together with complete classified lists of the matriculants and latest graduating class, in regular annual catalogues or announcements.

Statistics show that modern medicine cannot be acceptably taught by a medical school which depends solely on the income from students' fees. No medical school should expect to secure approval, therefore, which does not have a generous annual income from state or private endowment in addition to students' fees. [End of reprint "Essentials of an Acceptable Medical College."]

9. *Handbook for Interns.*—At the Annual Congress on Medical Education, Medical Licensure and Hospitals of 1930 a symposium on hospital prescribing was held. At that time also a conference with leading clinicians and pharmacologists was held in which the suggestion by Dr. E. E. Irons (Chicago) of an interns' handbook was favorably received. The Council on Medical Education and Hospitals was asked to compile and edit the material with the assistance of the Council on Pharmacy and Chemistry. This duty was accepted for the Council by the secretary, and since that time the work of collecting the material has been going on. The book is not intended to be a textbook but is to be carried in the intern's coat pocket. Besides a comprehensive list of standard drugs, it will contain rules and suggestions for interns, and certain clinical and laboratory data. It is planned to sell the handbook for a dollar or less.

B. HOSPITALS

Hospitals and the Practice of Medicine.—Facts brought out in the 1930 census of hospitals, published in the Hospital Number of THE JOURNAL for March 28, again remind us that the practice of medicine in all its branches is gradually being transferred to hospitals, where there are hospitals. There are 6,719 hospitals registered now, as compared with 4,359 in 1909, when the American Medical Association published its first complete list of hospitals. The capacity of all hospitals in 1909 was 421,065 beds; in 1930, 955,869 beds. The total patient days in all hospitals in continental United States for the year 1930 was 278,634,430, an increase of 13,364,840 over 1929.

The annual gain in capacity of hospitals has been at the rate of more than 20,000 beds a year for more than twenty-one years. There is reason to believe that the practice of medicine will continue to drift toward hospitals until, to a much larger extent even than now, every physician of whatever specialty will be expected to have hospital connection. The number of physicians connected with hospitals, as staff members, residents, interns and superintendents, was 98,491 in 1929. It is safe to say that a very large majority of the 45,287 physicians that have chosen some branch of medicine as a specialty have hospital connection.

Hospitals and Business Depression.—During 1930, the hospitals that give free or nearly free service were generally busy and, in many instances, severely crowded. Hospitals for pay patients suffered a considerable slump, causing deficits and making it necessary to close certain sections, or even entire hospitals, temporarily. The total average number of beds unoccupied constantly in all hospitals in 1930 was 192,487, as compared with 180,367 in 1929. One noticeable result of the large number of idle beds in pay hospitals, including those run by individuals and by corporations, was a tendency to resort to all kinds of expedients in order to help fill the idle beds. The year 1930 was, therefore, a banner year for insurance plans and flat rate contracts, offered to the public as aids to the middle classes but really, in many instances, remedies for financial stringency due to diminished income.

Registered and Nonregistered Hospitals.—During the year 163 hospitals were admitted to the Register and 109, for various reasons, such as closing, merger or unethical practices, were dropped from the Register. The number of hospitals not admitted to the Register now is 540, an increase of 36 over the previous year. The total capacity of these 540 hospitals is 14,142 beds; this is less than 2 per cent of the total capacity of all hospitals. The increase in the number of hospitals refused registration is due to the Council's improved methods of finding out the facts regarding hospitals. The Council is now in better position than ever before to satisfy itself about each hospital in regard to: (*a*) the need for a hospital in that particular community; (*b*) its ethical standard, and (*c*) whether it is using available facilities to the best interests of the patients.

The list of registered hospitals published in the March 28 issue of THE JOURNAL is in two sections for each state: (1) hospitals and sanatoriums, and (2) related institutions. The related institutions include nursing homes, school infirmaries, prison infirmaries, and custodial and other institutions designed to give some medical, nursing or convalescent care in an ethical and acceptable manner, but not strictly hospitals.

Outpatient Departments.—Figures compiled in 1930 show an increase in the number of hospitals conducting outpatient departments from 678 in 1921 to 1,027 in 1929. These totals cover outpatient departments giving a general service in diagnosis and treatment but do not include hospitals holding various special or occasional clinics.

In 1929 the people of the United States, in the proportion of 1 to 18, visited an outpatient department, as compared with 1 to 35 in 1921. The total number of patients increased from 3,000,163 to 6,644,983; in the same time the number of visits increased from 9,522,123 to 19,056,394.

HOSPITALS APPROVED FOR INTERNS

There are now 664 hospitals approved for interns, having a capacity of 201,974 beds and accommodating 5,584 interns. The hospitals that are not approved for intern training by the Council are having increased difficulty in getting students to accept their internships. The total number of approved and unapproved hospitals that reported using interns is 883, and the total number of internships approved and unapproved is 6,094. The Biographic department of the American Medical Association records on each physician's biographic card an account of his internship, telling where and when the internship was served. Where the Council learns that a contract of internship has been terminated before completion, the intern, the superintendent of the hospital, and the dean of the medical school from which the intern graduated, each is given an opportunity of sending in a written statement for the Association's biographic file.

RESIDENCIES IN SPECIALTIES

The list of hospitals approved for residencies in specialties for those who have already had a general internship was begun in 1927. The list then contained 270 hospitals providing 1,699 residencies. It was established in response to a demand on the part of interns for an educational year, or several years, of hospital experience to aid them toward specialization or in acquiring increased knowledge and skill in certain specialties. The list has grown until at present there are 349 hospitals providing 2,069 residencies. Today the great majority of graduates intending to specialize enter one of these hospitals for two, three or more years.

HOSPITALS FOR NERVOUS AND MENTAL DISEASES

At the Detroit session last year a resolution was presented by the Section on Nervous and Mental Diseases, and adopted by the House of Delegates, "That the Board of Trustees of the American Medical Association be authorized to appoint a special committee of five Fellows of the Association especially interested in these problems, with a view to an investigation of the situation and to making a report to the Board of Trustees on the manner in which the Association can be of service in the solution of these problems."

Another resolution was passed at the same session to the effect "That the Council on Medical Education and Hospitals be requested to make a thorough investigation of all hospitals caring for mental patients within the next one or two years whereby a more accurate knowledge of the situation may be obtained and the need of further developments in the field be pointed out."

Pursuant to the adoption of these resolutions, the Trustees appointed a committee composed of Dr. Walter L. Treadway, Dr. James Allen Jackson, Dr. H. Douglas Singer, Dr. F. G. Ebaugh and Dr. E. J. Emerick. At the October meeting of the Council the committee was asked to serve in an advisory capacity to the Council in carrying out the work that was assigned to the Council by the resolution quoted.

Some data regarding the work of institutions for nervous and mental patients have been published each year in the Hospital Number and particularly in the issue of March 28, 1931. The following table will give some idea of the amount of work being done by those hospitals:

Hospitals for Nervous and Mental Patients in Continental United States Classified According to Ownership or Control

Classification	No. of Hospitals	Rated Capacity	No. of Patients	Laboratories	X-Ray Depts.	Physical Therapy Depts.
Federal	21	17,602	16,634	20	20	19
State	229	362,697	347,635	172	175	114
County	58	27,000	24,859	7	9	8
City	9	12,303	11,267	7	2	4
Total governmental	317	419,262	400,395	206	206	145
Church	21	3,938	3,527	7	4	8
Industrial	1	25	20	..	..	1
Individual and partnership	127	4,469	3,067	34	9	42
Independent associations	95	9,885	8,033	39	15	46
Total nongovernmental	244	18,317	14,647	80	28	97
Grand total	561	437,919	415,042	286	234	242

At the conference on Medical Education, Medical Licensure and Hospitals at Chicago in February of this year, special attention was given to hospitals for nervous and mental diseases by inviting specialists in that field to read papers and to discuss with the Council the problems of the field and to find out methods by which the Council could be of greatest assistance. At that time this matter was admirably summed up by the Chairman of the Council in his address on "Mental Health as a National Problem," as follows:

"In summary, I would suggest that the mental health of a nation is its greatest asset. Mental hygiene is a vital part of preventive medicine.

"1. Medical students and physicians need more adequate training in psychiatry.

"2. There should be interns in every hospital for the care of the insane. The presence of the inquiring student would do more to advance pathology, increase autopsies, and develop research in our mental hospitals than any other factor.

"3. More of the research energy of the medical profession should be diverted into the difficult fields of psychology and psychiatry.

"4. Education of the public so that they will view mental diseases as they do other diseases is important.

"5. The handling and care of the mentally ill should be dealt with along medical rather than legal lines."

Preliminary arrangements have been made by the Council and the advisory committee, for work that was assigned to the Council, and good progress is being made. The cooperation of all organizations that can contribute materially to the work of the Council has been earnestly sought. Cooperation is assured.

CLINICAL PATHOLOGIC LABORATORIES

The House of Delegates at the Chicago session in 1924 authorized the Council on Medical Education and Hospitals to proceed with a survey of clinical pathologic laboratories including independent laboratories and those connected with hospitals. It was impossible to cover the entire assignment at once, and because of the need that something be done about the independent laboratories, many of which were run by lay technicians, it was decided to place the efforts of the Council first in behalf of the independent laboratories. At the February, 1931, meeting of the Council it was voted that the Council's approval be made available to all laboratories alike whether in hospitals or elsewhere. Arrangements are about completed in the office for extending the survey to cover completely the field of clinical pathology.

RADIOLOGIC LABORATORIES

As requested by the House of Delegates at the Minneapolis session in 1928, the Council undertook supervision of laboratories of radiology and roentgenology similar to that already established over clinical laboratories. As a committee to prepare the "Essentials of an Approved Laboratory or Department of Radiology or Roentgenology," the Council appointed Dr. A. U. Desjardins, Dr. William E. Chamberlain, Dr. George Grier, Dr. Frederick M. Hodges, Dr. Charles L. Martin, Dr. Ralph Pemberton and Dr. D. B. Phemister. The "Essentials" were approved by the House of Delegates at the Portland session in 1929. The Council and the committee, with the collaboration of about fifty radiologists, developed a questionnaire which was used to obtain information. A total of 1,150 radiologists responded with information sufficient to determine their eligibility for the approved list. A tentative list was then prepared and submitted to competent advisers in different parts of the country. There are 198 advisers who were selected by the Council, the committee and officers of the American Roentgen Ray Society and the Radiological Society of North America. These advisers made their reports on the basis of their personal acquaintance with the laboratories in question, supplemented by 471 inspections. Based on the recommendations of the advisers, together with the information supplied by the applicants and a thorough examination of the biographic files of the American Medical Association, a list of the 932 physicians that are regarded as conducting approved radiologic services has been prepared and is to be published in THE JOURNAL of May 23.

CONCLUSIONS REGARDING HOSPITALS

1. The practice of medicine has been transferred to hospitals during the past twenty-one years to an extent that has required the addition of more than 20,000 beds each year. The number of physicians connected with hospitals is around 100,000, including not far from 45,000 specialists.

2. During the past year more work was done in hospitals than in any previous year, notwithstanding the depression, which merely shifted part of the work from the pay to the nonpay hospitals.

3. The hospitalization of the mentally ill is the largest single problem in the hospital field in point of capacity of institutions devoted to that purpose. Considerable progress has been made toward the survey of hospitals for the mentally ill, assigned to the Council last year.

4. The demand for interns in hospitals approved for interns alone exceeds the number of graduates turned out from medical colleges during the year by more than 1,000.

5. The employment of resident physicians on an educational basis advances the knowledge and skill of the resident in the specialty selected by him and supplies the hospital with resident service in lieu of intern service.

6. The list of physicians conducting approved pathologic laboratories now numbers 182. The privilege of this approval is now extended to all pathologists alike regardless of whether they conduct laboratories in hospitals or elsewhere.

7. The first survey of departments of radiology and roentgenology has been completed and a tentative list has been prepared of the 932 physicians who are found to be conducting radiologic services that comply with the "Essentials," for publication in THE JOURNAL, May 23, 1931.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS
RAY LYMAN WILBUR, Chairman.
WALTER F. DONALDSON.
REGINALD FITZ.
MERRITTE W. IRELAND.
EMMETT P. NORTH.
JAMES S. McLESTER.
CHARLES E. HUMISTON.
N. P. COLWELL, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

All matters referred to the Council on Scientific Assembly at the last annual session received the attention of the House of Delegates at its meeting in Detroit.

The usual meetings of the Council have been held during the year, and the regular annual conference of section secretaries with the Council on Scientific Assembly was held in Chicago on Dec. 12, 1930, at which time the necessary arrangements for the preparation of the Official Program of the Scientific Assembly were completed.

ASSIGNMENTS FOR SECTION MEETINGS AT PHILADELPHIA SESSION

The meeting hours of the sections at the Eighty-Second Annual Session have been assigned as follows:

MORNING	AFTERNOON
Practice of Medicine	Diseases of Children
Obstetrics, Gynecology and Abdominal Surgery	Surgery, General and Abdominal
Laryngology, Otology and Rhinology	Ophthalmology
Pathology and Physiology	Pharmacology and Therapeutics
Orthopedic Surgery	Nervous and Mental Diseases
Urology	Dermatology and Syphilology
Preventive and Industrial Medicine and Public Health	Gastro-Enterology and Proctology
Radiology	

CLINICAL LECTURE PROGRAM

The interest that has been shown in the clinical lectures which have been presented as a part of the official program within the last four years has encouraged the Council to offer a program of such lectures at the Philadelphia session. The lectures to be presented, ten in number, will deal with subjects of timely interest to the general profession and will be delivered by Fellows of the American Medical Association who are thoroughly qualified to discuss the subjects to be presented. This part of the program of the Scientific Assembly has come to be a distinct feature of the annual sessions, and it is believed that the clinical lectures have been firmly established as an important factor in the Association's efforts to bring practical and helpful information to those who attend its annual sessions. The Council desires to acknowledge its gratitude to the contributors to the lecture program, and urges that all who can will attend the lectures which will begin at 2 p. m., Monday, June 8.

A SUGGESTED INNOVATION

From time to time, the Council on Scientific Assembly has considered suggestions to the effect that an open general meeting should be held at each annual session to hear the discussion of topics, nonscientific in character, in which the rank and file of the profession may be particularly interested. Such discussions might deal with subjects pertaining to the social and economic phases of medicine. It was not possible to arrange for a meeting of this kind this year and the members of the Council are not sure that the demand is insistent enough to justify a recommendation that changes should be made in the By-Laws to provide for holding a meeting of this sort. The matter is submitted to the House of Delegates for such consideration as it may deserve.

THE SECTION PROGRAMS AND THE SCIENTIFIC EXHIBIT

Definite progress has been made in correlating the work of the Scientific Assembly with the Scientific Exhibit. It will be found this year that more exhibits deal with subjects presented in the various sections than ever before.

SECTION OFFICERS

The officers of the Section of the Scientific Assembly, on whom is imposed the duty of arranging the section programs, have discharged this duty with fidelity and have succeeded in enlisting the cooperation of a splendid body of essayists for the present session.

Respectfully submitted.

JOHN E. LANE, Chairman.
FRANK H. LAHEY.
ROGER S. MORRIS.
LEWIS H. McKINNIE.
FRANK SMITHIES.
E. STARR JUDD, President-Elect.
MORRIS FISHBEIN, Editor, THE JOURNAL.
OLIN WEST, Secretary.
} Ex officio.

CLINICAL LECTURES TO BE GIVEN AT THE PHILADELPHIA SESSION

The following clinical lectures will be given in the ballroom of the Municipal Auditorium:

MONDAY, JUNE 8

2:00 p. m. Blood Pictures in Anemias, Leukemias and Allied Disorders of Blood. CYRUS C. STURGIS, Ann Arbor, Mich.

2:45 p. m. Treatment of Anemias. GEORGE R. MINOT, Boston

3:30 p. m. Clinical Value of Blood Chemistry Determinations. ROLLIN T. WOODYATT, Chicago

TUESDAY, JUNE 9

9:00 a. m. Fungus Diseases. CHARLES MALLORY WILLIAMS, New York

9:45 a. m. Variations in Methods of Treatment of Syphilis. PAUL A. O'LEARY, Rochester, Minn.

10:30 a. m. Deficiency Diseases: Clinical Recognition and Management. JOHN H. MUSSER, New Orleans

2:00 p. m. Differential Diagnosis of Coma. HOWARD C. NAFFZIGER, San Francisco

2:45 p. m. Surgical Handling of Diabetic Patients. L. S. McKITTRICK, Boston

3:30 p. m. Types and Treatment of Chronic Rheumatism. RUSSELL L. HADEN, Cleveland

4:15 p. m. Infantile Paralysis. FRANK R. OBER, Boston

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 2, 1931

REFINED ANTIPNEUMOCOCCUS SERUM

Since the discovery of the etiologic relationship of the pneumococcus to pneumonia, the search for an effective antipneumococcus serum has continued unabated. Little progress, however, was made in this direction until 1913, when the biologic classification of pneumococci by Dochez and Gillespie [1] provided a rational basis for modern serum therapy in this disease. Shortly after, Cole [2] made his first report on the therapeutic value of type I antipneumococcus serum in the treatment of pneumococcus type I pneumonia. These investigators also experimented with immune serums for type II and type III pneumonia, but with little practical success. In 1929, Cole [3] reported the statistical results of a series of 431 cases of type I pneumonia that had been treated with type I serum at the Hospital of the Rockefeller Institute. The mortality rate for this series of cases was only 10.2 per cent. Comparing this with the usual death rate of from 20 to 30 per cent in type I pneumonia for patients not receiving serum, the results speak strongly for the therapeutic value of type I serum. Unfortunately, the results obtained by other investigators who have worked with type I serum have not always been so satisfactory. In general practice the technical difficulties entailed in administering large amounts of serum intravenously and the danger of reactions have militated considerably against the extensive use of this agent in the treatment of type I pneumonia.

The disadvantages of the original unrefined antipneumococcus serum of Cole were soon recognized and efforts were made to produce a refined and concentrated derivative. It was hoped that a concentrated polyvalent serum might be of some value also in the treatment of the other types of pneumococcal pneumonia. In 1915 Gay and Chickering [4] found that, by mixing immune serum with a solution of pneumococcus bodies of the same type, a precipitate formed which contained most of the protective substance of the serum. By dissolving this precipitate in an alkaline medium, a clear antipneumococcus solution was obtained. In 1921 Huntoon [5] modified this method, using washed pneumococci instead of a solution of pneumococcus bodies, and produced a serum practically free from serum protein and fairly potent in protective substances against pneumococci of the three fixed types. Avery [6] found that by fractional precipitation of the serum proteins a large proportion of the protein could be eliminated.

Felton [7] reported in 1924 that virtually all of the protective substance in antipneumococcus serum could be obtained in a precipitate formed by adding the serum to a large amount of distilled water. Recently he [8] has combined the salting-out method of Avery with his own method in order to refine and concentrate the serum still further for therapeutic use.

During the past three years, a number of clinical reports on the use of Felton's serum have appeared in medical literature. In 1928 Park, Bullowa and Rosenblüth [9] and, in the same year, Cecil and Sutliff [10] reported independently the results of two years' investigation with Felton's concentrated serum. Both studies were made in New York, the former at Harlem Hospital and the latter at Bellevue Hospital. These investigators at this time employed a polyvalent serum; that is, one containing antibodies against all three of the fixed types of pneumococci. In both series the alternate control method was used. In type I pneumonia the mortality rate showed a reduction in the Harlem series from 31 per cent in the control cases to 17 per cent in the treated, and in the Bellevue series from 31 per cent to 20 per cent. A total of 510 cases of type I pneumonia, approximately 50 per cent treated and 50 per cent control, was represented in the combined series of the two hospitals. Both reports show a greater reduction in the mortality rate of cases with a positive blood culture than in those with a negative one. In type II pneumonia the difference in death rate between the treated and control series was not so marked. Serum treatment in type III and group IV pneumonia was not effective. Finland [11] has recently reported a similar investigation at Boston City Hospital in which the figures compared favorably with the New York results. Mills,[12] in Montreal, Cowan and his co-workers [13]

1. Dochez, A. R., and Gillespie, L. J.: A Biologic Classification of Pneumococci by Means of Immunity Reactions, J. A. M. A. **61:** 727 (Sept. 6) 1913.
2. Cole, Rufus: Treatment of Pneumonia by Means of Specific Serums, J. A. M. A. **61:** 663 (Aug. 30) 1913.
3. Cole, Rufus: Serum Treatment in Type I Lobar Pneumonia. J. A. M. A. **93:** 741 (Sept. 7) 1929.
4. Chickering, H. T., and Gay, F. P.: J. Exper. Med. **21:** 389, 1915.
5. Huntoon, F. M.; Masucci, P., and Hannum, E.: J. Immunol. **6:** 185 (March) 1921.
6. Avery, O. T.: The Distribution of the Immune Bodies Occurring in Antipneumococcus Serum, J. Exper. Med. **21:** 133, 1915.
7. Felton, L. D.: Boston M. & S. J. **190:** 819 (May 15) 1924.
8. Felton, L. D.: Concentration of Pneumococcus Antibody, J. Infect. Dis. **43:** 543 (Dec.) 1928.
9. Park, W. H.; Bullowa, J. G. M., and Rosenblüth, M. B.: The Treatment of Lobar Pneumonia with Refined Specific Antibacterial Serum, J. A. M. A. **91:** 1503 (Nov. 17) 1928.
10. Cecil, R. L., and Sutliff, W. D.: The Treatment of Lobar Pneumonia with Concentrated Antipneumococcus Serum, J. A. M. A. **91:** 2035 (Dec. 29) 1028.
11. Finland, Maxwell: The Serum Treatment of Lobar Pneumonia, New England J. Med. **202:** 1244 (June 26) 1930.
12. Mills, E. S.: The Serum Treatment of Pneumonia, Canad. M. A. J. **22:** 488 (April) 1930.
13. Cowan, John; Cruickshank, R.; Cuthbertson, D. P.; Fleming, John; and Harrington, A. W.: Treatment of Lobar Pneumonia by Felton's Serum, Lancet **2:** 1387 (Dec. 27) 1930.

in Glasgow, and the physicians to the Royal Infirmary [14] in Edinburgh have also published favorable results with Felton's serum.

In a recent issue of THE JOURNAL, Cecil and Plummer [15] reported a study of 1,161 cases of pneumococcus type I pneumonia, 473 of which are included in a therapeutic study of Felton's concentrated serum. A reduction in the mortality rate from 31 to 20 per cent followed the use of the refined serum, and a further reduction to 11.7 per cent was noted in the cases treated within seventy-two hours of onset. These investigators also point out the simplicity of the technic required for administering this serum and stress the low incidence of serum sickness and other reactions. If these figures are reliable, it would appear, as Cecil points out, that of the approximately 30,000 deaths in the United States every year from type I pneumonia perhaps two thirds could be avoided by the early administration of type I serum. In conformity with the evidence, the Council on Pharmacy and Chemistry accepts antipneumococcus serum representing type I but does not accept serums representing other types or mixtures of all types, holding that type I serum alone is worthy of clinical trial.

THE SALIVARY GLANDS AND THE MECHANISM OF THIRST

The sensation of hunger is usually referred to the stomach; that of thirst to the pharyngeal region. Both sensations may be regarded as protective signals that warn the living organism of the need for regularity in the intake of nutriment. In respect to its intensity and untoward consequences, thirst is far more serious than hunger. Men have starved over long periods—more than a month—when water was available; but deprivation of fluid for more than seventy-two hours inevitably leads to death from thirst. A loss of one fifth of the water of the body is serious. In relation to the duration of life, water has an importance between that of food and that of oxygen. It is more vital than food and less vital than oxygen. Despite this significance of lack of water, less is known about the actual nature of thirst, the index of the deprivation of water, than about its analogue, hunger.

Most writers ascribe a local origin to the sensation. One may read that although the intensity of thirst increases with the loss of water from the body, leading to a lessening of the saliva secreted, it occurs normally long before there is any serious upset of the normal relationship of the water percentage of the organs and tissues and may be produced artificially by drying of the throat. Furthermore, it is stated that "false thirst," thirst produced by drying of the throat artificially, can be relieved by letting water touch the pharyngeal membrane without being swallowed.[1] There is little doubt, however, that the thirst following prolonged deprivation of water is something more than a mere local sensation. It must be referred to changes in the tissues.

If the condition of the throat as represented by dryness of the mouth is, in truth, an important factor in the commoner manifestations of thirst, the supply of saliva to the buccal cavity must have a decidedly modifying influence. Montgomery [2] has asserted that it appears possible to make a crucial test of the importance of the salivary secretion in the control of water ingestion by completely extirpating the salivary glands: if a diminished secretion of saliva leads to local dryness of the mouth, which in turn causes the individual to drink, a total elimination of the salivary secretion should produce an increase in the daily ingestion of water. Montgomery therefore undertook successfully such extirpation experiments on animals. Not only the parotid, submaxillary and sublingual but also the orbital glands were removed. The healing was satisfactory. The buccal mucosa remained in a healthy and remarkably moist condition. The average daily water intake was not increased in the absence of the salivary glands. Hence, as Montgomery concludes, it appears improbable that the salivary glands play a major part in the mechanism of thirst. Incidentally, these experiments afford additional evidence that, unlike the pancreas and other glandular structures, the salivary glands are by no means indispensable to life.

ESSENTIAL PENTOSURIA

Real anomalies of metabolism have long engaged the interest of students of medicine. The number of these eccentricities, so to speak, in the chemical transformations staged in the living organism has seemingly increased with the greater attention that is being devoted to biochemistry in its relation to the clinic. Cystinuria, alkaptonuria and pentosuria furnish striking illustration of disordered metabolic performances in the body. In no instance has the cause of the aberration been discovered. Usually the manifestations are so inconsequential to the well being of the person involved that the anomaly is discovered through the chance of chemical examinations of the urine for some unrelated reason.

Until quite recently, scientific literature contained accounts of perhaps fifty persons who had been accustomed to excrete pentose in the urine regardless of the nature of their diet. Fischer and Reiner [3] of the Mount Sinai Hospital in New York have recently asserted that, contrary to the current assumption, pentosuria is not a rare condition. The failure to recognize it in ordinary clinical examinations is readily understood. There are

14. Physicians to the Royal Infirmary, Edinburgh: A Report on Lobar Pneumonia, Treatment by Concentrated Antiserum, Lancet **2**: 1390 (Dec. 27) 1930.

15. Cecil, R. L., and Plummer, Norman: Pneumococcus Type I Pneumonia, J. A. M. A. **95**: 1547 (Nov. 22) 1930.

1. Halliburton, W. D., and McDowall, R. J. S.: Handbook of Physiology, Philadelphia, P. Blakiston's Son & Co., 1929.

2. Montgomery, Mary F.: The Rôle of the Salivary Glands in the Thirst Mechanism, Am. J. Physiol. **96**: 221 (Jan.) 1931.

3. Fischer, A. E., and Reiner, Miriam: Pentosuria in Children, Am. J. Dis. Child. **40**: 1193 (Dec.) 1930.

no characteristic clinical symptoms referable to the disorder. Pentose sugars give many of the reducing tests characteristic of the conventional urinary sugar, dextrose. It is therefore only by the exercise of discriminating chemical judgment that detection of the five-carbon sugars can be accomplished. Routine specific examination might bring many new cases to light. It is not unlikely that pentosuria has been mistaken for glycosuria in the past. On this account, clinical symptoms of diabetes should always be sought for before making a diagnosis in cases in which the urine gives reduction tests. Pentosuria has actually been associated with diabetes in a few instances.

Alimentary pentosuria may result after the ingestion of pentoses experimentally and also following the intake of large amounts of fruits. There is an abundance of evidence that pentose sugars are not utilized to any noteworthy extent as sources of energy or for the storage of glycogen and sugar in the body. This is why the announcement of the commercial production of certain pentose sugars, notably xylose, on a large scale in the industries has failed to awaken the enthusiasm among dietitians that the report of new sources of inexpensive "sugar" might be expected to elicit.

Essential pentosuria has been studied by Fischer and Reiner in children. These individuals, otherwise healthy, excreted pentose more or less constantly in small amounts irrespective of food intake. Cases of pentosuria have been followed for as long as twenty-five years with absence of symptoms and with continued excretion of pentose. The amount of pentose excreted has been unchanged in spite of the elimination of different articles of food from the diet. The New York investigators were unable to detect any essential difference between the absorption and the excretion of pentoses in normal controls and in pentosuric children. Dextrose did not increase the output of pentose. The nonfermentable reducing substances of the blood are not increased in pentosuric persons. When pentose is given to normal persons, the rise in pentose is slower than that in dextrose and reaches its maximum later, but it is maintained longer than the rise in dextrose. The blood pentose curve in pentosuric persons is similar to that in normal persons.

Fischer and Reiner have substantiated the conclusion that pentosuria is a metabolic disease and is not due to an increased permeability of the kidney for pentoses. Certain puzzles still remain to be solved. What is the origin of the urinary pentose in essential pentosuria? None of the available suggestions, such as breakdown of nucleoprotein, are alluring. In the cases of Fischer and Reiner only a small amount of the ingested pentose is accounted for in the urine and the stool. They were unable to determine the fate of the remainder. It appears unlikely that under ordinary circumstances pentose can replace dextrose in the human organism.

The difficulty of identifying small amounts of non-dextrose reducing substances such as pentoses in the urine of diabetic persons is stressed by Fischer and Reiner. They remind us that such components are usually described as pentose, if fermentation is absent. This assumption is not warranted, since glycuronic acid and its salts give the same urinary reaction as pentose. It is perhaps more likely that a diabetic person would excrete glycuronate than pentose because of the incomplete oxidation of sugar by the tissues. Yet the failure of the diabetic person to metabolize dextrose might conceivably extend to pentose. Finally, there is a feature of pentosuria that deserves to be kept in mind. This harmless anomaly resembles certain other perversions of metabolism in making its appearance in several members of the same family. The hereditary aspects of the subject awaken many interesting speculations which further research may clarify.

Current Comment

VITAMINS AND DIGESTIBILITY OF FOOD

Today, twenty-five years after the inception of the vitamin hypothesis, this conception is firmly established as a principle of nutrition; in natural foods there are certain as yet unidentified substances without which nutritive failure results. These food factors have been classified according to the symptoms and structural changes appearing in experimental animals given diets lacking the appropriate vitamin. Ocular changes, renal calculi and metaplasia of epithelial cells occur in the absence of vitamin A; polyneuritis and anorexia characterize a deficiency of vitamin B; a weakening of the endothelium of capillaries seems to be the fundamental change brought about by a lack of vitamin C; defective utilization of calcium and phosphorus results when vitamin D is absent, and without vitamin G there occurs a more or less characteristic dermatitis. In experimental animals subjected to a deficiency of any of the recognized accesory food factors, cessation of growth occurs. These reproducible observations serve as indexes of disturbed body functions but thus far few data are available bearing on the precise mode of action of the vitamins. In a recent investigation, St. Julian and Heller[1] have examined the digestibility of fats, carbohydrates and proteins in experimental animals subjected to the appropriate vitamin deficiency. The animals were given the incomplete food until the store of vitamins was depleted; the missing factor was then given to part of the animals, which thus served as controls. Studies in metabolism were then made. No difference in the digestibility of fat, carbohydrate and protein was demonstrated between the groups given the complete ration and those in which the diets lacked vitamins A, B, C, D or G. In spite of the functional disturbances and structural alterations in the various deficiencies produced, the mechanical and chemical factors in digestion apparently proceeded normally. In

1. St. Julian, R. R., and Heller, V. G.: J. Biol. Chem. **90**: 99, 1931.

view of the frequency with which the gastro-intestinal tract is the seat of obvious disturbance in vitamin deficiencies, this result is surprising. The conclusion seems warranted that the primary locus of action of the accessory food factors lies in those cells more strictly responsible for the major portion of the metabolism of the body.

ULTRAVIOLET ABSURDITIES

One might have thought that the apotheosis of the extension of the ultraviolet concept to daily life had been reached with the irradiation of cereals, bread, ice cream and cigarets. Whenever a new discovery is made in science, the prophets of advertising begin to exploit the discovery far beyond its actual merit in relationship to the prevention of disease. Now comes a laundry in the city of Chicago which promises healthful cleanliness to every home through the application of ultraviolet and ozone to linens, towels, sheets and pillow cases. The slogan is "Year 'Round Sunshine with Fresh Mountain Air." Apparently the application of ultraviolet rays and ozone confers longer wear on the sheets and pillow cases which are "sun-drenched with such healthful cleanliness." Moreover, the advertiser asserts, "You'll like the friendly feel you'll get between fresh, crisply clean, sunsweet sheets at bedtime." One is tempted to cogitate as to whether or not such nocturnal enjoyment might not lead to insomnia. Perhaps the Ideal Wet Wash Laundry which "puts sunshine in the laundry bundle when it rains" will make scientific studies necessary to establish the truth or falsity of this theory.

Association News

CONTRIBUTIONS FOR MEMORIAL SALON IN PERSHING HALL

The sum contributed this week to the Pershing Hall Memorial in Paris brings the total to $2,331.60. A list of those who have contributed during the current week follows:

Frank P. Norman, M.D., Columbus, Ga.
Aristocles George Augustine, M.D., Napanoch, N. Y.
H. A. Bramwell, M.D., New York
H. A. Lichtwardt, M.D., Meshed, Persia
John M. Hayes, M.D., Decatur, Ill.

MEDICAL BROADCAST FOR THE WEEK

American Medical Association Health Talks

The American Medical Association broadcasts at 10 a. m. on Monday and 10:30 on Saturday, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week is as follows:

May 4. Are You Losing Your Hearing?
May 9. The Prevention of Deafness and the Conservation of Hearing.

Five minute health talks may be heard over the Columbia Broadcasting System daily, except Sundays and holidays, from 1 to 1:05 daylight saving time.

The program for the week is as follows:

May 4. How Much Do You Hear?
May 6. How Much Do You Hear?
May 7. Lip Reading.
May 9. Willing Ears.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Twenty-Seventh Annual Meeting, held in Chicago, Feb. 16, 17 and 18, 1931

(Continued from page 1413)

DR. E. P. LYON, Minneapolis, in the Chair

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

FEBRUARY 17—MORNING

PROBLEMS IN MEDICAL EDUCATION (Continued)

The Continuous Session Plan

DR. B. C. H. HARVEY, Chicago: The continuous session plan proposes that medical schools remain open to students throughout the year. Among the new studies coming into the American universities in the present generation, one of the most important is the study of disease. It may be objected that medicine was such in the old universities — Montpellier and Paris — almost from the beginning. Nominally it was, but only nominally. Actually it was not disease that was studied but the books. The unfortunate students submitted to readings from the books of Hippocrates and Galen, to summations of them and comments on them. Their only active work was to argue, defending the texts even when they were wrong. Medicine of that kind never did get into American universities. Something like it perhaps existed in the small medical colleges which sprang up in the new country in response to the urgent demand for doctors. It may also be objected that along our Eastern seaboard medical schools were organized over a century ago in connection with colleges—with Pennsylvania in 1765, with Harvard in 1783, with Columbia and Virginia at the beginning of the last century.

Medicine has developed the university spirit. Everywhere it is recognized that a chief obligation of university medical departments is the search for and the advantage of fundamental truth. Among the traditional customs to which medical work is not readily adaptable are the holidays. Disease knows no holidays, and so it seems clear that there cannot well be holidays. Some of the former conditions that insistently required the long vacation have ceased to operate in America. The time of travel is reduced to nearly nothing. Few students work on the farms. An increasingly large percentage are able to meet the expense of education. A plan which seems to permit the attainment of all the major objectives of true university work, is suggested:

1. That in the clinical courses, at least, the continuous session plan be recommended in medical schools.

2. That it be made possible for students in these courses to receive all required clinical training without interruption, and that they be encouraged to arrange their work in this way.

3. That the staff in the clinical departments be made large enough to permit the continuous care of patients and the continuous training of students without depriving the members of the staff of free opportunity for independent work during one full quarter of each year.

A possible objection is that the student's health will be endangered. Another much more serious objection is that state laws governing licensure do not permit it. If the continuous session plan should be followed only in the clinical years and thus only the summer between the third and fourth years so utilized, there would still elapse between the beginning of the student's first year and the end of his fourth year forty-two months—enough elapsed time to meet the requirements of all state boards. If the plan should be applied also in earlier years it would not meet the requirements of state laws as they now stand. Rush Medical College has tried out the plan to the extent of offering on an elective basis work in the summer quarter fully equivalent to that of other quarters for many years. In Rush, 51 per cent of the students who entered in the autumn of 1928 remained for four quarters. The corresponding figure for last year was 62 per cent. The experiment will be continued also in the University of Chicago Clinics. Graduation at an earlier age is much to be desired. The present average age of our graduates is twenty-seven. We would be happier if it were twenty-five.

The Preceptor System Plan

DR. LLEWELLYN R. COLE, Philadelphia: The plan arranges for condensation of class work into the first three years of medicine, leaving the fourth year free for twelve months of supervised individual work. This fourth year is to be considered as the preceptor year. One half of the year is divided into medical and surgical quarters and is spent in Madison with small groups of students. The other half year is divided into a Milwaukee quarter and an extramural preceptor quarter spent at any one of a number of different cities throughout the state. In addition to these, about two weeks is spent in obstetrics at the Chicago Lying-In Hospital.

The Milwaukee quarter devotes two weeks to additional obstetric work, four weeks to outpatient work in the Milwaukee County Hospital, two weeks of work in tuberculosis, two weeks in preventive medicine, industrial and accident surgery at a large industrial plant, and two weeks' further service in the Milwaukee Hospital in ward work and ambulant patient work. This work places one or two students under a preceptor at any given time and involves the cooperation of twenty-five different preceptors in Milwaukee.

The extramural preceptor quarter covers three months of intimate association with the preceptor and the group he has often surrounded himself with. He is given definite responsibilities to react toward as he will. He is made, by virtue of the private practice and influence of the preceptor, an integral social and professional part of that community during his stay there. Opportunities are ever present and a constantly expanding horizon unveils itself for those who care to accept the full advantages.

A need of medical schools with respect to academic and instructional methods with reference to the practice of clinical medicine is the correlation of theory and practice with regard to the professional application of scientific fact to our intercourse with patients. This suggests the need of establishment of a series of relative values by participation in the actual practice of medicine. This, in turn, implies practical experience which is rarely obtained within the walls of our medical schools. A need, recognized by some, but too grossly overlooked, is the necessity for the establishment of the patient rather than the disease as the unit of instruction.

To achieve ultimate professional success, the identification of opinions which are fundamentally honest and ethical is essential, but how often do such problems present themselves in the routine teaching of medicine? Is it not better to allow contacts at an earlier and individually supervised period than to thrust them brutally in his face when supervision has ceased and the problem has become purely his own? What better stimulus may be suggested than a student who is in constant search of facts and whose eager interrogations leave his preceptor and those in association with the preceptor with doubts and more modern conceptions? The first-hand distribution of new material and the stimulation of search for new information is thus accomplished in some degree, an objective of unquestionably decided virtue. This system has a great number of valuable improvements over certain of the prevailing practices.

There are those who will comment that the internship is designed with just such objectives and to satisfy these needs. Too frequently the internship satisfies the residence requirements of hospitals but gives insufficient attention to the teaching of the art and discipline of medicine. The internship is indispensable as a teaching aid but unfortunately leaves much work undone.

The preceptor plan of teaching has the extremely valuable effect of humanizing our attitudes and associations. We live as single individuals in much closer contact with our teachers and preceptors, and instruction is individual. Correlation of theory and the art of medical practice are made easier. We are, during our fourth year, constantly in association with men who are professionally successful in their communities and in the face of those varying problems that each of these communities presents. Closer correlation of specialties is immediately evident in our teaching. The student develops keener critical judgment, initiative and discrimination and recognizes that honest divergent opinions may exist. Selective ability is stimulated and augmented and a willingness to accept varying opinions based on logical facts is established. In the routine teaching of medical schools, assigned duties and procedures give rare chance for observation and comparison of ideals. The system under discussion gives ever present opportunity for practice and observation of the fundamental principles and axioms by allowing a student to go actually forth into these communities and herein to study the attitudes of physicians, one toward the other, as well as the attitude of physician to patient. The stress of economic necessity modifies and tempers in no mild degree, in many instances, attitudes and philosophies of those who leave our medical schools imbued with high ideals and loaded with scientific facts but unfortunately free from any understanding of competitive strife as encountered in the modern medical practice. The selection of preceptors is of fundamental importance. The compatibility of student with preceptor demands a thorough knowledge of both personalities. Further, there is a class of students, greatly limited in number, fortunately, which requires assignments and daily didactic duties to profit most. This system gives a wide range of practical work. Self assurance, self reliance and resourcefulness are stimulated to a greater degree than by routine didactic procedures. The student is allowed to form individual opinions on a basis of merit and observation first-hand and at close range of principles, ethics and ideals as actually practiced as contrasted to those taught in the classroom.

A Plan for Training the Medical Student in General Practice

DR. HARRY E. KAPLAN, Stockton, Calif.: My object is to present a plan to establish a course in general practice. This proposal would call for the addition to the teaching staff of a general practitioner who is willing to give up a successful practice because of an urge to teach. A part of the outpatient clinic may be arranged as would be the private office of a practicing physician and surgeon. Each day a certain number of new patients coming to the outpatient clinic are assigned to this private office. In this office, with one or two students at the most, the approach to the patient, the history, the diagnosis, the treatment and the follow-up are demonstrated. The instructor will reveal in progressive steps his logic concerning just those personal factors of the patient which in the general clinic are usually given scanty attention if not disregarded. Patients would be told when to return to the office, and, if necessary, calls to be made at the homes of some of the patients could be arranged. Should certain patients be referred to the surgery, a student could serve as assistant and follow the case to the end. All such laboratory work normally done in the office of the well equipped general practitioner would be performed. For laboratory work performed outside the office, an important feature would be the consideration given to the necessity for it and the expense to the patient. During the interim between the first visit and the diagnosis, whatever palliative treatment is necessary would be given. The student onlooker of this episode in real practice would have an opportunity to glimpse the real patient with his inner attitudes and true motives such as he may rarely get elsewhere, for in the reassuring background of such offices and under the skilled touch of the practiced physician will surely be revealed that which would hardly come to light in the general clinic. Only essential general equipment should be included and no attempt should be made to fit up an office more elaborate than that of the average general practitioner. Records should be developed in a practical way. The entire course would have as its objective the duplication of those experiences which are met by practically every physician when he makes his direct contact with the public through private practice. By making a random selection of the patients admitted to this office, the general practitioner and his assistant, the medical student, will find the man with the lame back, the youth with the crop of boils and the child who will not eat. These are cases which are among the estimated 90 per cent of patients who should be cared for in the offices of the general practitioners.

This course as outlined is not suggested as a substitute for the present methods but may be made a part of clinical training. The combination of those methods and the plan suggested will better equip the medical student to cope with the problems of the first few years of general practice and it will bring back the private practitioner as a personal preceptor in medical education.

Deficiencies in the Teaching of Surgery

DR. W. T. COUGHLIN, St. Louis: With regard to the undergraduate instruction, the first defect is that the final objective has never been definitely stated. Not any one in the entire medical profession believes that we aim to equip our undergraduate to practice major surgery, and yet the public has never been informed officially by this body as it should be of this fact, which concerns it so vitally. Nor does any medical school, so far as I know, make its position in this matter clear to the prospective student. A plain statement of fact with regard to what we teach the undergraduate is indicated. Our duty and that of the schools in this matter is plain. An undergraduate should know certain fundamental principles of surgery, and have enough practical experience to enable him to treat minor surgical conditions—to enable him to become a good intern. There is an abundance of time given to undergraduate work, but much of it is wasted. The laboratories of anatomy, physiology and pathology are the sources from which must came the solid blocks for the foundation. Without these, no enduring surgical superstructure can ever be built. And the time to learn these is while an undergraduate—again there is much time wasted. The best way to disgust one with something he likes is to give him too much of it. Just this is done in the laboratories of anatomy, physiology and pathology. Why should a student be held in a laboratory for an entire half day when even a country school teacher has been taught that the mind can rarely concentrate on one subject for more than an hour? And yet it has been going on for years (twenty, I think), and no one has the desire to stop it.

While at work in the laboratory, the student should have constantly pointed out to him the practical value of what he learns. This will necessitate that some of his laboratory instructors be men who have practiced medicine or at least who know something of it. The student should see surgical patients daily during his whole four years. There is no asset held in greater esteem by surgeons than clinical experience. The student must be obliged to read. He cannot read himself into a complete knowledge of surgery, but a minimum should be required. Certain specified references should be read. The best way is for the head of the department to select some textbook on the principles of general surgery and see to it that the student becomes more or less familiar with it. He should first learn how to examine a patient. The large demonstration clinic—not the operating clinic—should never have been spoken disparagingly of, and it ought speedily to be restored to a place of honor. It is utterly impossible to get any of the more experienced men in the department to take much interest in an hour a day or even once a week with a class of eight or ten men. It is necessary to use the inexperienced as teachers. There is failure to utilize to its fullest the outpatient department. The fourth-year man should spend more time in the outpatient department. We cannot make the slightest pretense to qualify men to practice major surgery, and yet there is still an obligatory course in operative surgery. We give such a course. But it is a course in experimental surgery, pathology and physiology. He performs certain surgical operations—under instruction. Each group of six has its own instructor. He follows complete aseptic technic; i. e., he tries to. We furnish animals (dogs) and keep them for him afterward. In short, he performs experiments in surgery—in technic, in pathology and in physiology—but by no means do we lead him to believe that this course qualifies him to do major surgery on his fellow beings. For those who wish to qualify as major surgeons, a graduate course of at least two years—three would be better—should be begun after the year's rotating internship. Five years' practice "on his own" would be an excellent preparation after his internship. The state should not license any one to practice major surgery unless he has actually learned how to perform as well as when to perform major operations. And they would not do it if we displayed the proper appreciation of our own responsibility. To license a man to perform major operations on human beings without seeing him operate is the practice of every state board in the Union. Should such a practice be continued when it is not necessary? The state boards accept and license these men because the medical schools imply that they are qualified.

DISCUSSION ON PAPERS OF DRS. HARVEY, COLE, KAPLAN AND COUGHLIN

DR. R. R. HUGGINS, Pittsburgh: Preceptorial training has engaged our attention in Pittsburgh for the past three years. It has been our aim to try it out in the simplest possible manner and to make it truly a course that conforms as nearly as possible to the idea of a service with the family physician. For the first two years the class was sent out in sections for a period of six weeks each. This year the entire class was sent out for a period of six weeks. We were compelled to seek the help of sixty-two physicians in the district who were not only qualified but willing to assume the responsibility of taking a student. Many good men are modest about their ability to do the student justice, and decline. Others do not care to spend the time necessary for such extra work. On the whole, we found the most splendid cooperation on the part of medical men. Our experience would suggest that preceptorial training is helpful to the physician, and if the course is properly organized and confined to physicians who are honestly interested it will eventually do much to raise medical standards in any community where it is established. It will thus be seen that there is a dual purpose in our conception of the benefits to be derived from such a course. At the end of the first year a meeting of the class was held and the students were asked to give their opinions. We found that the class was almost unanimously in favor of the experiment. The same thing was done at the end of the second year and again at the end of the third year. In other words, we have depended largely on the judgment and desire of the student body themselves for a repetition of the course. At the end of the present year only two students out of a total in a class of sixty-two voted against the experiment. Two or three of the students thought the disillusionment had better be left until later. One of the most common comments made by the students was that they had learned that the approach to patients is quite different in private practice from that in the hospitals, and a much keener appreciation is had of the handicaps in diagnosis in the home. It was the general opinion of the class that it is a distinct advantage from the standpoint of treatment. It gives an opportunity for the development of a better knowledge of prescription writing and the practical application of drugs. One of the outstanding benefits of this course would seem to be that the student gets a very definite idea of the value of clinical medicine as a foundation for further development in the practice of medicine and its specialties. He learns that much of the pleasure in practice comes from efforts to make a diagnosis without depending too much on laboratory aid; he learns that it is possible to make a diagnosis with a very small armamentarium in the vast majority of instances, and, on the other hand, he learns to have a keener realization of their value when clearly indicated. Among the advantages of this system are that the student is afforded an opportunity to observe the attitude and manner of the doctor toward his patients, and he observes the position of the doctor in the civic, social, religious and political life of the community. Many phases of medical economics are taught to the student. He observes the disease in the office stage; that is, the incipient stage which is seldom seen in hospital instruction. Among the disadvantages are the extra cost to the student, especially students who live at home. The student misses athletic events, social activities and school publications, some of which are charged for in the tuition. Owing to seasonal variations and other factors beyond the control of the preceptor, there may not be enough work to keep the student busy. Cooperation between the student and the preceptor is the sine qua non of the system. There is much opportunity in the distribution for an unsympathetic combination between the student and the preceptor. In such instances the service may be an irritation to the preceptor and a waste of time for the student. One great need in medicine is the preservation of the individual. When the time comes that diagnosis must depend entirely on the so-called summary from a group, the great incentive will have disappeared from the practice of medicine. If the tendency in this direction is to be counteracted, young men must be taught self reliance, diligence and the methods by which diagnostic ability may be developed. If

a student who has had good training in the history and ethics of medicine could be placed in the hands of a medical man with the right training and proper ideals for six or eight weeks either during the summer following the junior year or in the beginning of the senior year, much good would come to all concerned as a result of this experiment.

DR. LOUIS B. WILSON, Rochester, Minn.: The vacation in the medical schools grew up in this country because it was necessary for the medical student to get his clinical training from his preceptor at home. He came to the medical school to get academic education. He had relatively small opportunity to work in the hospital. Fifty years ago there was scarcely a school that had a session of more than six months; then a student went back to his medical preceptor at home and worked with him getting clinical training. Rush Medical School in 1880, as I recall it, had a six months' course, and most of the schools have been built on just that basis. It is only as the universities will provide clinical experience along with didactic and educational work throughout the twelve months of the year that it will be possible to get completely away from our old system.

DR. C. W. M. POYNTER, Omaha: When the agitation was first started, we of Nebraska put on this provision in the last year, graduating students in February. Last year the faculty changed this requirement, and we have gone back to the one we had before. The students have many problems that accumulate by the end of the junior year that it seems desirable for the individuals to take up on their own account. It is more valuable for this group of students to be allowed to elect problems in which they were interested and would follow out, also problems in the dispensary, associating themselves with the eleemosynary institutions, possibly going out and working with doctors in the various communities during the summer, to answer for themselves the question whether they wished to become country practitioners or not. We have thought the general atmosphere educationally was better if we allowed students these diverse exercises than if we crowded them through to a final graduation in February.

DR. R. J. SEYMOUR, Columbus, Ohio: For the past year I have been on the committee of Ohio State University which has been dealing not solely with the medical school but with the university at large as to whether they cared to continue on the four-quarter plan or go back to the semester plan, plus the summer session. The chairman of the committee was Dr. Charters of the Bureau of Educational Research. Dr. Charters, with his corps of workers, has spent a year intensively studying the facts concerning the four-quarter plan versus the semester plan. There is no question whatever that the entire burden of opinion must be in favor of the four-quarter plan. It may be of interest to some to ask Dr. Charters to send his voluminous report studying not only Ohio State University but other institutions. The facts are there; actual facts that he has gathered at great expense. As I say, the whole trend is toward the four-quarter plan without any question.

DR. WILBURT C. DAVISON, Durham, N. C.: Many of the state boards, seventeen, in fact, I think, have a definite law that a student must spend four years of eight months each in four different calendar years. I have written to all the secretaries of the state boards, and practically unanimously they have said that if a school is a grade A school the graduates will be accepted, and also those of the seventeen that have a definite four-calendar-year law have stated that since the student who enters in 1930 if he goes through continuously will get his degree in 1933, in other words, has been a student in four different calendar years, '30, '31, '32 and '33, he may get his diploma early in '33, but he has spent at least part of his time in these four different years. I don't think the state boards' objection will hold.

DR. TORALD SOLLMANN, Cleveland: At Western Reserve University School of Medicine the seniors are residents for eleven months. They begin the first of July, I think, and run on continuously until the beginning of June. We instituted it with the idea of making a better utilization of the last summer. There are two months that are elective, and I think perhaps the majority of the students utilize that in the summer time. Although we have had this for a matter of perhaps fifteen years, nobody else has imitated it. On the part of our clinical men there is a certain amount of objection to it. They feel that it is a heavy load on them personally, or at least on their departments. The one department that insists strongly on it is the obstetric department, which has organized the service so that the student's clinical service continues during the summer time. To me it has always seemed a very good utilization of the student's time, especially if electives are allowed.

DR. C. R. BARDEEN, Madison, Wis.: One thing sought for in this preceptor system is to emphasize in the training of students that medicine has a social aspect as well as a scientific aspect. All medical students at the University of Wisconsin during the second year have some scientific problem and have to present a recent thesis embodying results of working with one of the scientific laboratories, so they have the scientific background of medicine emphasized, and then during this preceptor year each student is required to write a little sketch of some social aspect of medicine. In these times of stress and strain and trying to readjust medical practice to the needs of society, it is especially important to get students to thinking along social lines, and if this preceptor system has done that I think it is most fundamental. The background of the whole thing is to tend to develop state medicine in Wisconsin, not in the ordinary sense of state medicine, which might be defined possibly as bureaucratic centralization of medicine at public expense, but state medicine in the sense of cooperation of all the forces in the state looking to the preservation of the health of the community, cooperation of the practitioners with the state health officials and with the educational institutions, the kind of cooperation that encourages competition, but a kind of cooperation that can be brought together and integrated so that it all works to the advancement of medicine. That is the ideal, at least, in the background. We can't look on the university or the university medical school merely from the standpoint of a place where the science of medicine is advanced. I don't think there can be a real university medical school without that, but, in addition to research, university medical schools have two other fundamental duties. One is the education of students to be able to practice medicine and the technological aspect; the other is to facilitate the advancing knowledge of medicine, to facilitate its entrance into the practice of the community which the university serves—the extension aspects. The university medical school has to do something along all those three lines. In this extension aspect, the preceptor system with the students out in the community part of the time in the biggest city in the state, part of the time in smaller communities, helps to facilitate the spread of the advance of medical knowledge into the whole profession. I think that one thing which helps to make this preceptor system a success is that we make use of natural groups in the state into which the student may be fitted as a part. A single practitioner practicing medicine by himself might take a student along and take him into the homes and show him what he is doing, in the old-fashioned preceptor method, and accomplish a good deal. That is already done in some places in the summertime. But there are comparatively few practitioners in the midst of their busy practice who can bother having a student around with them all day unless that student is a particularly congenial companion; but the preceptor centers that we make use of are natural clinical centers in the state where a group of physicians has practically control of a hospital and where the student may be taken into the group, made a part of it, without overburdening any one member of the group. These clinical centers are developing a real university spirit, a spirit of research as well as practice, and the student going in there helps to stimulate the university spirit in numerous scattered centers.

DR. WILBURT C. DAVISON, Durham, N. C.: I should like to ask Dr. Kaplan, and also Dr. Bardeen, whether service with a general practitioner for the short period of one month would have any practical value.

DR. H. E. KAPLAN, Stockton, Calif.: I think the period is too short to acquaint the student with some of the problems of medical practice. One month is better than nothing. I am in

favor of Dr. Bardeen's preceptor plan. The object of my paper was merely to create an addition to this preceptor system. Take the preceptor and bring him into the university and let him conduct his private practice there.

DR. C. R. BARDEEN, Madison, Wis.: For the training for general practice in the smaller clinic centers I think that three months is none too little. The student might not be with one man more than a month, but he ought to be in the general community learning conditions of general practice I should say at least three months.

DR. E. P. LYON, Minneapolis: I should like to ask Dr. Kaplan whether he thinks this plan could be combined with the receiving department of the dispensary. Our plan is something like that now, although it is under the department of medicine.

DR. H. E. KAPLAN, Stockton, Calif.: That is being done at the University of California now. The patients coming are assigned to a medical student regardless of the complaint of the patient, right at the receiving desk, but the patient is taken to the cubicle where the student works, and there he completes his physical examination and prescribes for the patient and then presents himself before the consultant.

DR. C. C. BASS, New Orleans: In the plan adopted at the Tulane University School of Medicine we have provided what corresponds to private offices for all senior students. Each senior student has an office about the size of the average doctor's private examining office, about 9 by 15 feet. It has in it practically all the necessary equipment for general practice of medicine. The plan is to have the patient turned over to the senior student, who will, in his office, deliberately take the history, make the physical examination that is necessary, such laboratory examinations as are necessary, and finally arrive at diagnosis and treatment of the patient, of course all under supervision of the member of the staff. The patient will finally go away with an appointment to return at the proper time to see the same man again, just as would be done in private practice. In that way we hope to avoid teaching the student by experience to be dependent on facilities that he cannot have when he gets out into practice. A large part of our problem is to prepare students for the general practice of medicine.

DR. LLEWELLYN R. COLE, Philadelphia: One thing has come to me in the discussion of practically all the papers, and that is the necessity and the attempt that is being made on the part of educators to encourage students to go into general practice. Any system that will encourage students to go into general practice certainly should have the endorsement of educators.

FEBRUARY 17—AFTERNOON

DR. LEWIS A. SEXTON, Hartford, Conn., in the Chair

HOSPITAL PROBLEMS

The Hospital, the Medical College and the Intern

DR. A. C. BACHMEYER, Cincinnati: This article was published in full in THE JOURNAL, March 28, page 1002.

The Hospital Training of Interns

DR. HAROLD L. FOSS, Danville, Va.: This article was published in full in THE JOURNAL, March 28, page 1004.

DISCUSSION ON PAPERS OF DRS. BACHMEYER AND FOSS

DR. FRED G. CARTER, St. Paul: The attitude of the hospital toward the intern must differ from that of the medical school toward the student because of the somewhat different objectives of the two institutions. In the school work, the student is kept on his toes, so to speak, by the justifiable demands of the faculty and the competition of fellow students. In the hospital, the incentive of the intern to work and prepare himself is found in closer approach of grave responsibility. He must be brought to the point where he realizes that he must stand on his own feet and must learn to think and act independently and correctly. The transformation that takes place in the raw recruit in serving his internship is amazing and speaks volumes for efficiency of medical courses and the adaptability of the young men and women serving internships, preparing to become practitioners of medicine. In accomplishing these purposes, the hospital cannot dodge its teaching responsibilities. Since the hospital standardization program provides for trained pathologists in the recognized hospitals, is there any reason why didactic courses in general and perhaps special pathology should not run concurrently with the internship? I believe most interns can afford an hour or two each week in which to study general pathology under the direction of the pathologist. The possibilities for didactic teaching along other lines are almost unlimited in the hospitals. I do not believe that hospitals in general in the United States have scratched the surface so far as teaching potentialities are concerned.

DR. R. W. PLUMMER, Philadelphia: The question of the attitude of the administrative officer toward the intern has been the subject of much discussion in the American Hospital Association and the American Medical Association for many years. In our hospital of over 700 beds, we have eighteen on the resident staff. It is obligatory on the part of the staff to attend our stated staff meetings, which occur once a month. They have nothing to say in the matter but have to go unless they are actually engaged in work. In addition, we have specialized staff meetings once a month, in connection with our specialized staff. The intern on duty at the time of this meeting must go, also the one next due for that service, according to rotation. In that way, they are brought into intimate contact with the staff of those particular services. We try to inculcate in our interns a sense of responsibility. We force them to make a provisional diagnosis of their own accord and write up notes. We don't expect them to make the correct diagnosis, but we do expect them to make a clinical diagnosis, a provisional one. There has been so much attempt in medicine and in our hospital practice in the last few years to depend on different forms of diagnostic procedures, we have lost sight of the clinical phase of making a diagnosis the way we did twenty years ago. We are training our interns now to observe in their work the necessity of using the senses before they resort to the x-rays and the laboratory.

DR. A. C. BACHMEYER, Cincinnati: We have in our institution a graduate scheme which provides for six years of work before a man reaches his residency in surgery. We think that is a long time for a man to put into special preparation for that field; still we have but two men able to start each year for that particular course, and we select those two from over a hundred applications each year. Medicine provides four years; pediatrics, three or four years. Some special societies have laid down plans that provide that a man should go through proper preparation before he is qualified. Repeatedly we go into small hospitals. Those boys, in the fifth year, write back each two months a report of what they have done, with a preceptor, so designated, really a supervisor appointed from the faculty. We don't permit any one of our faculty men to supervise more than five students, and the fifth year committee usually sees to it that not more than three men are assigned to any faculty man. Fifteen years ago, we had to use our ingenuity in getting autopsies. I have had Catholic priests and Jewish rabbis go out and secure autopsies. We have definitely proved in our institution that it can be done, but in private hospitals there is still a certain hesitancy about asking for autopsies. As soon as autopsy rooms are taken out of the basement and brought upstairs, as soon as the decorum in that autopsy room is changed and medicine practiced the same as in our operating rooms, the attitude and opinion of our own profession will change in connection with autopsies and put them on the plane where they belong, making them a part of our practice. In clinical conferences, I trust that physicians may be made to do what I admire the legal profession for, fighting the hottest way in the court room and then walking out arm in arm to luncheon. When physicians can go to a clinical conference without bias or prejudice or personal feelings and discuss questions on a purely scientific basis, and take that attitude to the interns, the intern service will be made really worth while.

DR. R. W. PLUMMER, Philadelphia: I think it would be a bad policy for the Council to make an attempt to limit the work of an intern in surgery. I think it would be better if it did not come out one way or the other. I don't believe there is any half way business in training an intern. In the naval service we make every intern do an appendectomy as part of his training.

He has to do it himself, for the reason that those men are frequently away from any other medical advice and must do things on the spot without any help. It is a little different in military service than in private life, where a surgeon can be called on when needed. We have interns whom we would not permit to do major surgery and others who are perfectly competent to do it, but we do supervise them.

DR. A. C. BACHMEYER, Cincinnati: For particular service, such as navy service, I think that type of training is very well. They are fitting the men to meet an emergency, where they are going to have to be dependent on their own resources. I don't believe, in fitting men for service as surgeons in the country at large, it is incumbent on us to give the intern training in that type of surgery. We have our men in the surgery service about two months in general surgery; a few additional months in other surgical specialties. In that two months they cannot, in any sense of the word, become fitted to do major surgery. So we don't allow them to do major surgery as interns. After that internship, as they proceed during the six year course, they are assuming an increasing amount of responsibility. The more simple procedures are given them to perform and later more involved ones. By the time the man finishes his sixth year, he has handled everything that comes in, except cases in which he feels there are complications and he wants assistance. We feel, by the time he comes to his sixth year, that he should be competent to do anything that comes to him. I don't happen to know of one in the last seven years, since the first one graduated, whom I would hesitate to have open my abdomen. They are going through very carefully. I believe that is the attitude that our medical schools and best hospitals should have toward the subject of surgery.

DR. N. W. FAXON, Rochester, N. Y.: Years ago, I had to study the intern question extensively. The more I studied, the more I became impressed with the undesirability of adopting hard and fast rules. One question was whether a rotating internship was more desirable than a straight internship. I became convinced that both were desirable, each to be chosen in its proper place. In the same way, a great deal depends on what the intern is going to do after he graduates. If he is going to settle in a large city where there are plenty of surgeons, it is obvious he should not attempt to do surgery on the experience of one year's internship. If he settles in a district where there are no surgeons, it is obviously to his advantage and the advantage of his patients that he at least get some knowledge of surgery. Consequently, I should make a plea that the Council, in making restrictions, should not take the attitude that a man should do major surgery or should not do major surgery, but to leave some things to the consideration of the men who are conducting that type of work.

DR. E. W. THOMPSON, Indianapolis: In Indiana we made arrangements a year ago with the *Indiana State Medical Journal* to publish each month about ten case reports, each of which is prepared by our interns under the supervision of the resident staff. These cases are first presented at the seminar and the staff criticizes them; then the intern has a chance to revise them. They are sent from the intern to the head of the department, who revises them again and returns them to the intern, when they are sent to my office for proofreading, and then sent to the journal. I think that is valuable teaching for the intern. We now conduct once a week, about eight months of the year, classes in surgery for any of the interns in residence who would like to attend the classes. They are done in the medical school under the supervision of the professor of surgery. It is not compulsory for the intern to attend unless he wants to. Many times an intern attends the first year and then is a regular member in the class for the remaining three or four years he is at the hospital.

DR. E. A. RYGH, Chicago: There is one thing that is changing the necessity of having an intern do major surgery in his fifth year. That is the fact that a great many are taking another year of hospital work. An increasing number of men are not satisfied with one year's internship. The men who are going into surgery are going to take a residency or straight service in surgery after they have their general service. I think that has to be taken into consideration.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Bills Introduced.—H. 41 proposes to make it the duty of persons having control of deaf, dumb or blind children, between 7 and 16 years of age, to enroll them in the Alabama Institute for Deaf and Blind. H. 317 proposes to create a board of cosmetologists and to regulate the practice of cosmetology. H. 297, to amend the workmen's compensation act, proposes to raise from $100 to $200 the amount for which employers will be liable for medical treatment to injured employees. H. 440 proposes to provide for the establishment and maintenance of county tuberculosis sanatoriums.

ARIZONA

State Medical Meeting at Nogales, May 7-9.—The fortieth annual meeting of the Arizona State Medical Association will be held at Nogales, May 7-9, with headquarters at the Hotel Montezuma, and under the presidency of Dr. Joseph Madison Greer, Phoenix. Guest speakers will include Dr. Charles W. Brown, San Diego, Calif., on "Bronchoscopic Diagnosis and Treatment, Including Foreign Bodies"; Dr. John Homer Woolsey, San Francisco, "Surgical Problems of Usual and Unusual Gastric Lesions"; Dr. Thomas O. Burger, San Diego, "Newer Anesthetics"; Dr. James Marr Bisaillon, Portland, Ore., "End-Results Following Intrapleural Pneumolysis"; Dr. William L. Bell, Oakland, Calif., "What Constitutes a Modern Bone Surgeon" and E. E. Priego, Nogales, Sonora, Mexico, "Tetanus Following Hemorrhoidectomy." Entertainment will include a buffet supper followed by bridge at the home of Mrs. A. L. Gustetter, president of the Woman's Auxiliary, for the women and a smoker for the men, Thursday evening, and a dinner dance, Friday evening.

CALIFORNIA

Septic Sore Throat Made Reportable.—At its regular meeting held in San Francisco, March 14, the California State Board of Public Health passed a resolution making septic sore throat a reportable disease.

Infant Mortality Lowered.—The lowest infant mortality rate ever reached in California was for the year 1930 with a rate of 58.6 per thousand births. The rate for the preceding year was 63.1. A total of 4,945 California infants died last year, as compared with 5,139 in 1929; 39 per cent of the total for 1930 were Mexican infants.

Society News.—The Los Angeles County Medical Association was addressed, April 16, by Dr. Rudolf Kronfeld, Chicago, on "Is There a Justification for the Retention of Pulpless Teeth?" illustrated, and Dr. John V. Barrow, "Significance of Teeth as Focal Infections."——Dr. Ernest E. Kessler addressed the Los Angeles Surgical Society, April 17, on "Gonococcus Pyelitis with Report of Four Cases"; Dr. Anders Peterson, "Treatment of Vesicovaginal Fistulas by Electrocoagulation," and Dr. Frank B. Young, Gering, Neb., "Paleopathology."——Dr. Charles H. Mayo, Rochester, Minn., addressed the Alameda County Tuberculosis and Health Association, Oakland, April 10, on "Some Public Health Problems of Today."——Dr. Hugh F. Jones, Los Angeles, addressed the San Diego County Medical Society, April 14, on "Plastic Reconstructive Surgery of the Extremities."

Advertiser Fined.—M. E. Brooks was fined $400 by Judge Arthur L. Munro, in the justice's court, San Diego, January 23, after he had pleaded guilty to advertising in violation of the state medical practice act. Brooks is said to have carried on his activities in Ventura, Orange, Los Angeles and San Diego counties. Evidence obtained by the board of medical examiners showed that he referred to himself as "Dr. M. E. Brooks" and claimed that he mastered disease through diet and "Vivogen." It was charged that Brooks treated a woman for cancer for several months, causing her to postpone treatment until the condition was beyond help. In addition to "Vivogen," which is said to be a mineral water, the man also sold "Gland-O-Gen," which he called a "gland food," prepared as a "result of years of study and research by the drugless master of disease, Dr. M. E. Brooks."

CONNECTICUT

Bill Introduced. — Substitute for H. 654, to amend the dental practice act, proposes (1) to provide that, in addition to the causes now enumerated by law, a license to practice may be revoked for (*a*) publication of fraudulent or misleading statements by any dentist concerning himself or his employees, or concerning the skill or method or technic of any person or operator, or concerning the employment by any person or operator of accessory agents, such as anesthetics or drugs or materials, and (*b*) the conviction of any crime involving moral turpitude; and (2) to require each licensed dentist to display conspicuously in his or her office his or her registration certificate for the current year.

FLORIDA

Bills Introduced.—S. 43 and S. 124 propose to regulate the practice of barbering.

State Medical Meeting at Orlando, May 11-13.—The fifty-eighth annual meeting of the Florida Medical Association will be held at Orlando, May 11-13, with headquarters at the San Juan Hotel, and under the presidency of Dr. Julius C. Davis, Jr., Quincy, who will speak at the opening session on "Medical Problems." Dr. Fred H. Albee, New York, will also address this session on "Treatment of Fracture of the Neck of the Femur." Included in the program will be papers by Drs. Louis M. Orr, Jr., Orlando, on "A Clinical Consideration of Intravenous Urography — Uroselectan"; Marion C. Wilson, Miami, "Manual Rotation of Entire Fetus in Occiput Posterior Positions as Substitute for Forceps Rotation"; Joseph Lee Kirby-Smith, Jacksonville, "Unusual Ulcerative Condition of the Chest Wall"; Rosalie Slaughter Morton, Winter Park, "Colonic Diverticula in Relation to Carcinoma and Its Prevention"; Leigh F. Robinson, Fort Lauderdale, "Present Status of the Injection Treatment of Hemorrhoids," and Ralph N. Greene, Jacksonville, "Traumatic Meningitis." A golf tournament will be held at the Orlando Country Club, Tuesday, and the annual banquet, Tuesday evening. A theater party, bridge, dance and teas have been planned for the women. The Florida Railway Surgeons' Association will hold its twelfth annual meeting in Orlando, May 11. Dr. Gaston H. Edwards, Orlando, will give the presidential address on "Our Medico-legal Status."

GEORGIA

Train Called "The Hygienian."—The health train to be operated by the state board of health, May 4-18, has been named "The Hygienian," following the suggestion of Curtis Lane, Statesboro, winner in a contest among school children to name the train. This unit will be directed by Dr. Millard E. Winchester, Atlanta, director of county health work of the state board of health. One exhibit will be a model farm of the Georgia type as to terrain and soil character, with buildings properly spaced as to hygienic requirements. The proper distance of barn, cow lots, and outhouses from the residence and water supply will be shown.

ILLINOIS

Society News.—Drs. James H. Hutton and Rollo K. Packard, Chicago, addressed the Kane County Medical Society, April 15, on "Relationship of Endocrinology to Obstetrics and Gynecology" and "Surgical Mortality and Morbidity," respectively.——The Jackson County Medical Society, Carbondale, was addressed, April 16, by Drs. William R. Cubbins and Charles Marshall Davison, Chicago, on intestinal obstruction and perforated gastric ulcer. —— Dr. Grace S. Wightman, Springfield, addressed a joint meeting of the Sangamon and Logan county medical societies and the Sangamon-Menard-Logan County Dental Society, April 9, on "Some of the Interrelated Problems of Medicine and Dentistry."

Bills Introduced.—S. 491, H. 886 and H. 888, to amend the medical practice act, propose to create a board of examiners for naprapaths and to regulate the practice of naprapathy, defined as "a system of charted diagnosis of contracted connective tissue and allied pathology and treatment thereof by charted manipulations and natural means without the use of drugs and/or operative surgery." S. 489 and H. 887 propose to require county clerks to record all certificates of registration of naprapaths practicing in their county. H. 852 proposes to require the annual registration of all hospitals by the department of registration and education. Before hospitals may be registered there must be filed schedules of all rates and charges proposed to be made for various services. H. 851 proposes to make it a misdemeanor for any person to negotiate or attempt to negotiate for any contract of settlement or release with any patient in any hospital within ninety days after an alleged accident.

Chicago

New Entrance Requirements at Illinois College of Medicine.—The board of trustees of the University of Illinois has adopted new requirements for entrance to the University of Illinois College of Medicine. Hereafter the students admitted must have gained an average of 3.5 on the university method of grading; 3.5 is approximately equal to an average of 83 per cent. This means practically that the students selected will be from the upper third of their classes and will simplify materially the selection of students from the large number of applicants.

Dr. Judd Gives First Mayo Lecture.—Dr. Edward Starr Judd of the Mayo Foundation, Rochester, Minn., President-Elect, American Medical Association, gave the first address of the Mayo Lectureship in Surgery of Northwestern University Medical School at the Murphy Memorial, April 22, on "Fundamental Problems Associated with Disease of the Biliary Tract." This lectureship was endowed by Dr. Charles H. Mayo, Rochester, for the advancement of education and learning in surgery. Every fifth year the lecture is to be given by a foreign physician, the intervening four lectures to be given by American surgeons.

Prize for Investigation in Medicine.—A prize of $500 is offered by the Institute of Medicine of Chicago for the most meritorious investigation in medicine, in the specialties of medicine or in the fundamental sciences, provided the work has a definite bearing on some medical problem, in a competition open to graduates of Chicago medical schools who have received their M.D. degrees during the year 1929 or thereafter. Manuscripts must be submitted to the secretary of the institute, 122 South Michigan Avenue, not later than December 31. The winner of the prize will be expected to present the results of his investigation before the institute at some meeting in 1932. If no paper presented is deemed worthy of the prize, the award may be withheld at the discretion of the board of governors.

National Hearing Week. — During National Hearing Week, which will be observed by organizations for the hard of hearing throughout the country, May 1-7, the Chicago League for the Hard of Hearing will keep open house until 11 p. m. week days and on Sunday from 4 to 11 p. m. in the club rooms in the DePaul Building, 64 East Lake Street, where members will give information concerning electric hearing aids. Lip reading classes will be held Tuesday and Friday at 2:30 and Monday and Friday at 7 p. m. A group of deafened children from the public schools will give an entertainment, May 2, and a travel talk Sunday afternoon, to which club members and their friends are invited. The week's program includes radio talks by prominent ear specialists, educators and social workers. A list of books of interest to the hard of hearing has been prepared for a special display at the Chicago Public Library.

IOWA

Ninth Annual Assembly.—The Twin Lakes District Medical Society will hold its ninth annual assembly, June 18, at Rockwell City. The society is composed of county medical societies of Calhoun, Carroll, Greene, Hamilton, Humboldt, Ida, Kossuth, Pocahontas, Sac, Webster and Wright, affiliated for graduate clinical instruction. It is planned to have native sons of Iowa furnish the program. A souvenir program containing the names of native sons who are practicing medicine in other parts of the United States is being prepared. Included among those who will give clinics are Drs. William F. Braasch, Rochester, Minn.; Golder Lewis McWhorter, Chicago, and Palmer Findley, Omaha.

MASSACHUSETTS

Bill Introduced. — H. 1538 proposes to provide for the licensing of chiropractors after examination by the medical board assisted by two chiropractors. Chiropractic is defined as "the external treatment of the human spine by mechanical or manual means."

Professor Turner Awarded Bigelow Medal. — Prof. George Grey Turner, Newcastle, England, has been chosen by the Boston Surgical Society as the 1931 recipient of the Bigelow Medal, which will be conferred, June 10. In accepting the award, Professor Turner will speak on "Some Experiences in the Surgery of the Esophagus." A fund was given to the society by the late Dr. William S. Bigelow in 1915 in memory of his father, Dr. Henry Jacob Bigelow, and part of the income

is used for a medal to be awarded to a man chosen by the council as having done the most for the advancement of surgery. Previous awards were to Dr. William J. Mayo, Rochester, Minn., in 1921; Dr. William W. Keen, Philadelphia, in 1922; Dr. Rudolph Matas, in 1926, and Dr. Chevalier Jackson, Philadelphia, in 1928.

Report of Boston Mental Hygiene Survey.—A survey of mental hygiene in Boston, financed by a grant of $5,000 from the Commonwealth Fund, has recently been completed under the sponsorship of a committee organized in 1929 by representatives from the Boston Council of Social Agencies, the Boston Health League, the Massachusetts Department of Mental Diseases, and the Massachusetts Society for Mental Hygiene. Dr. George H. Preston, commissioner of mental hygiene of Maryland, directed the survey, which occupied the full time of two psychiatric social workers and one third of a psychiatrist's time for six months. The report covers studies of mental hygiene in the agencies dealing with children, in the family agencies, in the health program of Boston, in the non-case working social agencies, in the public schools, in the courts, in connection with higher education in Boston, and of mental hygiene and psychiatric clinics in Boston. The recommendations of the survey, which was carried on largely as a functional study, are mainly functional in character. They suggest greater stress on mental hygiene subjects in training of normal school students and school nurses, in the nursing service of the Boston Health Department, and in colleges and professional schools; reorganization of the juvenile court sessions so as to make appropriate psychiatric study available for all juvenile offenders, and close contact with the state society for mental hygiene. It was also suggested that a permanent committee be organized to further these recommendations and report to the Council of Social Agencies and the Boston Health League at stated intervals.

MICHIGAN

Bill Introduced.—H. 447 proposes to authorize the establishment of a psychiatric clinic at the Michigan state prison at Jackson.

Personal.—Dr. Arthur M. Hume, Owosso, celebrated his fiftieth year in the practice of medicine in that city, March 10. A few weeks previously he was the guest of honor at a dinner given by the Shiawasse County Medical Society, at which he was presented with a traveling set.——Dr. Matthew R. Kinde, Rochester, Minn., assumed the directorship of the Isabella county health unit, April 1.

Revolving Loan Fund.—Through the Children's Fund of Michigan and Oakland County, a loan fund has been made available to county residents to enable them to obtain either medical or dental care for their children. This plan has been found successful in other counties, it is reported, in providing a way by which persons not classed as indigent but who are unable to provide their children with proper health care may do so more conveniently. Applicants may borrow the smallest amount, and the system is much the same as that which banks use. Notes are signed by the parents; they bear no interest and payments are arranged on a weekly or monthly basis. Application is made to the school principal, and investigation of the claim follows. When a case is found worthy after the committee in charge of the fund has made a final investigation, the parent may go to his own family physician or dentist, who is authorized to proceed with the needed corrections. All fees are paid by the treasurer of the fund directly to the doctor or dentist on completion of the service. It is hoped that this plan will assist worthy parents to provide proper attention for their children.

Society News.—Dr. Robert C. Moehlig, Detroit, addressed the St. Clair County Medical Society, March 3, on endocrinology.——At a meeting of the Berrien County Medical Society, April 3, the treatment and hospitalization of indigent afflicted persons was the general subject discussed by Drs. Clarence V. Spawr, Benton Harbor, and Clarence Gillette, Niles.——Dr. Hugo A. Freund, Detroit, addressed the Saginaw County Medical Society, March 17, on arthritis.——Dr. Ferris Smith, Grand Rapids, addressed the Calhoun County Medical Society, April 7, on "Late Effect of Burns."——Dr. Frank A. Mercer addressed the Oakland County Medical Society at Pontiac, April 16, on medical ethics.——Dr. Frank A. Poole, Lansing, addressed the Kalamazoo Academy of Medicine, April 21, on "Industrial Hygiene," and Dr. Carleton J. Marinus, Detroit, on "Ovarian Insufficiency."——Dr. Joseph C. Bloodgood, Baltimore, addressed the Kent County Medical Society, April 17, and showed a moving picture of the development of the cancer cell.——A symposium on empyema of the chest was conducted before the Wayne County Medical Society, April 21, by Drs. Daniel P. Foster, Royce R. Shafter and Clyde K. Hasley. Dr. Frederick A. Coller, Ann Arbor, addressed the society, March 31, on "Divorce of Medicine and Surgery."——Dr. Robert A. MacArthur, Detroit, addressed the Genesee County Medical Society, April 1, on hematuria.——Dr. Lawson G. Lowrey, director, New York Institute for Child Guidance, spoke, April 25, at the Children's Center, on "What the Pediatricians Can Contribute in Mental Hygiene in Treatment of the Child" and "Some of the Essential Facts the Pediatrician Should Know to Avoid Creating Emotional Problems in the Child." These talks were given in a series of meetings on mental hygiene for pediatricians.

MINNESOTA

Bill Introduced.—S. T. N. 4000 proposes the appointment of a commission to investigate and report on the scientific basis and legal claims of naturopathy.

Auxiliary Helps with Rehabilitation Home.—A former private residence in Minneapolis is being remodeled into a rehabilitation center for tuberculosis patients in whom the disease has been arrested. This is a part of the rehabilitation program of the Hennepin County Tuberculosis Association, it is reported, through which it is planned to give discharged patients free board and lodging in the home while they are being trained for new careers. The woman's auxiliary of the Hennepin County Medical Society, among other organizations, is taking an active part in the furnishing of the building.

MISSISSIPPI

Society News.—At the March 10 meeting of the Issaquena-Sharkey-Warren Counties Medical Society, Vicksburg, Dr. Willard H. Parsons spoke on "Parathiocresol Treatment of Chronic Ulcers"; Dr. George M. Street, management of common postoperative complications, and Dr. Ewing F. Howard, state medicine. Dr. Laurance J. Clark, Vicksburg, addressed a joint meeting of this society and the Central Medical Society, April 21, Jackson, on "The Heart in Pregnancy"; Dr. Preston S. Herring, "Some Abnormal Conditions in Obstetrics," and Dr. Isaac C. Knox, Vicksburg, "Pyelitis in Children."——Dr. Edwin W. Mackey, Hattiesburg, among others, addressed the South Mississippi Medical Society, March 13, on "Maxillary Sinusitis."

MISSOURI

Home for Crippled Children.—Through the will of the late Mrs. Louis P. Blosser, the Georgia Brown Blosser Home for Crippled Children will be established at the former Blosser residence at Marshall. This will make it possible to care for one third more indigent crippled children than can now be accommodated through the Crippled Children's Service of the University of Missouri Hospitals. In addition to leaving her home in Marshall to the crippled children of the state, Mrs. Blosser provided a $500,000 fund for their care. Edgar Allen, Ph.D., dean and professor of anatomy, University of Missouri School of Medicine, is reported to have said that actual equipment and preparations for the use of the home will not begin until Mrs. Blosser's will has been probated.

Society News.—At the meeting of the Kansas City Southwest Clinical Society, at the Children's Mercy Hospital, April 14, Dr. James G. Montgomery, among others, conducted a surgical clinic. This meeting was in cooperation with the Jackson and Wyandotte county medical societies.——Dr. Park J. White, Jr., St. Louis, addressed the Jackson County Medical Society, April 14, on "Colic in Infancy"; the society was addressed, April 21, by Dr. Frank C. Neff, Kansas City, on fluid intake in the newly born.——Drs. James R. Elliott and Samuel H. Snider addressed the Nodaway County Medical Society recently on "Use of Local Anesthesia in Fractures and Dislocations" and "Artificial Pneumothorax: the Other Lung," respectively. Dr. James R. McVay, Kansas City, among others, addressed the March 13 meeting of the society on "The Value of the Rectal Examination."——Drs. Charles P. Lewellen and Eric A. Cunningham, Louisiana, addressed recent meetings of the Pike County Medical Society on "Review of Modern Therapeutics" and "Ectopic Pregnancy," respectively.

NEW JERSEY

Society News.—At a meeting of the fifth councilor district of the Medical Society of New Jersey, Atlantic City, April 10, Drs. John A. Hartwell, New York, and Joseph C. Doane, Philadelphia, spoke on "The Continued Education of the Doctor" and "What the Public Thinks of the Present Day Practice of

Medicine," respectively. Dr. H. Sheridan Baketel, professor of preventive medicine and hygiene, Long Island College of Medicine, Brooklyn, addressed a dinner meeting on "The Personal Element in Medical Economics." —— Dr. Frederic W. Bancroft, New York, presented a paper on "Thrombosis and Embolism" before the Bergen County Medical Society, Hackensack, March 10. —— Drs. Irwin E. Deibert, Camden, and Hammell P. Shipps, Delanco, addressed the Burlington County Medical Society, Burlington, March 11, on "Newer Anesthetics and Their Use in General Medicine" and "Office Reduction of Fractures under Local Infiltration Anesthesia." —— Ferdinand Pecora, former district attorney of New York County, addressed the twentieth annual meeting of the Academy of Medicine of Northern New Jersey, Newark, March 19, on "Social Responsibility for Crime."

NEW MEXICO

Hospital News.—A laboratory for research in tuberculosis was recently dedicated at the Presbyterian Sanatorium, Albuquerque. A gift of $150,000 from F. L. Maytag, Newton, Iowa, provided the building and equipment; an endowment of $350,000 for maintenance and a further endowment of twenty guest rooms at $10,000 each in the new building makes a total of $650,000 to be devoted exclusively to work in tuberculosis. Dr. Charles P. Emerson, dean, University of Indiana School of Medicine, Indianapolis, was among the speakers at the dedication ceremonies.

State Medical Meeting at Albuquerque, May 20-22.—The forty-ninth annual meeting of the New Mexico Medical Society will be held at Albuquerque, May 20-22, with headquarters at the Alvarado Hotel and under the presidency of Dr. Meldrum K. Wylder, Albuquerque. Guest speakers will include Drs. Thomas E. Carmody, Denver, on "Some Points in Bronchoscopy"; Hugh T. Jones, Los Angeles, "Plastic Reconstructive Surgery of the Extremities"; William C. Finnoff, Denver, "Relation of Ophthalmology to General Diseases"; Samuel D. Swope, El Paso, Texas, "Brain Injuries"; John W. Amesse, Denver, "Sources of Infant and Maternal Mortality in Western States"; James Vance, El Paso, "Personal Observations of Cholecystitis"; Daniel G. Stine, Columbia, Mo., "Hypertensive Disease"; Frank I. Ridge, Kansas City, "Modern Diagnostic Methods"; Curtice Rosser, Dallas, Texas, "Diagnosis and Management of Rectal Cancer"; Nathaniel H. Brush, Santa Barbara, Calif., "Treatment of Delirium Tremens"; Milton J. Geyman, Santa Barbara, Calif., "Roentgen Diagnosis of Gastro-Intestinal Lesions," and Verne C. Hunt, Los Angeles, "Surgical Treatment of Peptic Ulcer." Dr. George P. Lingenfelter, Denver, will conduct a dermatologic clinic on Wednesday. A dinner dance will be given at the Franciscan Hotel, Wednesday evening, and a smoker at the Country Club, Thursday.

NEW YORK

State Medical Meeting at Syracuse, June 1-3.—The one hundred and twenty-fifth annual meeting of the Medical Society of the State of New York will be held, June 1-3, in Syracuse, with headquarters at the Hotel Syracuse and under the presidency of Dr. William H. Ross, Brentwood. At the opening general session, Dr. William Gerry Morgan, Washington, D. C., President, American Medical Association, will make an address. Other guest speakers will be Drs. Wells P. Eagleton, Newark, N. J., on "General Survey of Psychopathology and Psychotherapy"; Donald Guthrie, Sayre, Pa., "Postoperative Ileus, Its Early Recognition and Control"; Harold O. Jones, Chicago, "Repair of Second and Third Degree Lacerations of Perineum and Rectocele," a motion picture; Edward Francis, Washington, D. C., "Tularemia"; Robert H. Riley, Baltimore, "Psittacosis"; Clifford G. Grulee, Chicago, "Diagnosis of Intracranial Hemorrhage in the New-Born"; Nelson S. Weinberger, Sayre, Pa., "Management of Eye Injuries"; George L. Tobey, Jr., Boston, "Recent Advances in the Diagnosis and Treatment of Chronic Diseases of the Nose and Throat"; Harry C. Solomon, Boston, "Treatment of Neurosyphilis with Tryparsamide," and John S. Coulter, Chicago, "Treatment of Arthritis." The first golf tournament sponsored by the society will be held, June 1, at the Onondaga Golf Club and a permanent golfing organization will be formed.

New York City

Personal.—Dr. George K. Pratt has been appointed medical director of the mental hygiene committee of the State Charities Aid Association, retaining his connection as assistant medical director of the National Committee for Mental Hygiene.—— Dr. Maurice Packard was the guest of honor at a dinner given by the staffs of the Hospital for Joint Diseases and Gouverneur Hospital, April 18.——Dr. Edward C. Podvin was the guest of honor at a testimonial dinner given by the Bronx County Medical Society, March 31. He is editor of the society's bulletin.

Milbank Gives New Building to Institute for Crippled.—A new eight-story building of the industrial type is now in course of construction for the Institute for the Crippled and Disabled, the gift of Jeremiah Milbank, New York philanthropist, it was announced at the annual exercises of the institute, April 15. The new building will make possible the expansion of the organization's activities, which now reach more than 200 crippled persons. In addition to the shops for vocational training there will be recreation rooms, an auditorium, sun rooms, a cafeteria and a dormitory for out-of-town students. Mr. Milbank, who is the founder of the institute, has also established a special fund to care for the added expense of the larger quarters. Dr. Ray Lyman Wilbur, Washington, D. C., was the principal speaker at the ceremony, at which thirty students of the institute received certificates of proficiency.

OHIO

Reunion After Fifty Years.—Four out of forty graduates from Wooster University, class of 1881, met in Cleveland, March 19, to celebrate informally the fiftieth anniversary of their graduation. They were Drs. William J. Esch, Cleveland; George Leininger, Chicago; James A. McClure, Columbus, and Clark M. Barstow, Bryan, all of whom are more than 75 years old and in active practice. Eleven other members of the class are said to be living.

Society News.—Dr. Joseph T. Wearn, Cleveland, gave an address on "The Heart in Old Age" before the Toledo Academy of Medicine, April 3.——Dr. Lawrence O. Morgan spoke on "Recent Researches in Epilepsy" before the Cincinnati Academy of Medicine, March 30, and Dr. Robert A. Kehoe, on "Absorption and Excretion of Lead by Normal Individuals." ——Dr. Clyde W. Dawson, Yellow Springs, addressed the Greene County Medical Society, Xenia, March 6, on fetal and infant mortality.——Diabetes was the subject of a symposium presented by Drs. Homer D. Cassel and Arthur W. Carley before the Montgomery County Medical Society, Dayton, March 6. Dr. Frederick A. Coller, Detroit, addressed the society, March 20, on cancer of the stomach.——Dr. Elmer R. Arn, Dayton, spoke on "Diseases of the Biliary System and Their Surgical Treatment" before the Preble County Medical Society, Eaton, in February.——Dr. Abraham Strauss, Cleveland, addressed the Lorain County Medical Society, Elyria, March 10, on injection treatment of varicose veins.——Dr. P. Brooke Bland, Philadelphia, addressed the Mahoning County Medical Society, Youngstown, recently, on "Leukorrhea: Its Significance and Treatment."

OKLAHOMA

Practitioners' Course in Internal Medicine.—Four physicians conducted an intensive course in internal medicine, attended by 135 physicians of northern Oklahoma, at St. John's Hospital, Tulsa, April 6. Speakers were Drs. John H. Musser, New Orleans, on nephritis; Charles A. Elliott, Chicago, diseases of the thyroid; William H. Olmsted, St. Louis, dietetics, and Porter P. Vinson, Rochester, Minn., painful swallowing and treatment of the chest. The same course was given at the University of Oklahoma School of Medicine, Oklahoma City, April 8.

Diphtheria Campaign.—Federal appropriation of funds for emergency drought relief has enabled the state health department to plan a campaign of immunization against diphtheria, which will be carried into twenty-three counties of the state, newspapers report. Two crews consisting of an epidemiologist, a sanitary inspector and three nurses will make the inoculations, visiting each community a second time for the second injection. The health groups will also investigate cases of pellagra and typhoid, milk and water supplies and smallpox vaccination.

Society News.—Dr. Walter C. Alvarez, Rochester, Minn., addressed the Oklahoma County Medical Society, Oklahoma City, March 30, on nervous indigestion. —— Drs. Henry H. Turner and Charles R. Rountree, Oklahoma City, addressed the Carter County Medical Society, Ardmore, March 17, on endocrinology and fractures of the elbows, wrists and ankles, respectively.——Dr. Joseph Hoy Sanford, St. Louis, spoke on "Urology and the General Practitioner" before the Muskogee County Medical Society, March 23.——Drs. Clyde V. Rice and

Edward H. Fite, Muskogee, addressed the Okmulgee-Okfuskee Counties Medical Society, March 23, on "Celiac Disease" and "Urinary Obstruction," respectively.

PENNSYLVANIA

Society News.—Dr. William H. Kraemer, Philadelphia, addressed the Northampton County Medical Society, Easton, April 17, on medical treatment of carcinoma.——Dr. Arthur C. Morgan, Philadelphia, and C. Leonard O'Connell, professor of pharmacy, University of Pittsburgh, addressed the Cambria County Medical Society and the Cambria-Somerset Counties Pharmaceutical Association, Johnstown, April 9, on "Applied Therapeutics" and "The Pharmacist as Aid to the Physician," respectively.——Dr. Alan G. Brown, Toronto, Canada, addressed the Erie County Medical Society, Erie, April 7, on "Irradiation of Food Substances and Their Relation to the Health of the Child."——Dr. Arthur J. Bedell, Albany, N. Y., addressed the Pittsburgh Ophthalmological Society, April 27, on "Medical Ophthalmoscopy."——Dr. Florence R. Sabin, New York, delivered the sixteenth Mellon Lecture of the Society for Biological Research, University of Pittsburgh School of Medicine, April 23, on "The Status of the Cellular Reaction in Tuberculosis."

Bills Introduced.—S. 773 proposes that all hospitals conducted by corporations not for profit or by other purely charitable associations and for which no profit is derived shall be exempt from state, county or city taxes. H. 1627, to amend the workmen's compensation act, proposes that, in addition to medical treatment, medicines and supplies, hospital treatment, services and supplies shall be furnished by an employer to an injured employee for thirty days. The cost for such hospital treatment, service and supplies shall include all charges of the attending surgeon, if such surgeon is not a regular salaried officer or employee of such hospital, and shall not in any case exceed the prevailing charge in the hospital for like services to other individuals. S. 766 proposes to require all private hospitals, or private nursing homes to be licensed annually by the department of welfare. H. 1607, to amend the workmen's compensation act, proposes that compensation be payable for the following occupational diseases: miners' diseases including only anthracosis asthma and bursitis; lead poisoning; zinc poisoning; mercury poisoning; phosphorus poisoning; arsenic poisoning; poisoning by carbon bisulphide; poisoning by nitrous fumes; poisoning by nickel carbonyl; poisoning by formaldehyde; chrome ulceration; glanders; compressed air illness; radium or roentgen burns; methyl chloride poisoning; poisoning by sulphuric hydrochloric or hydrofluoric acid, and respiratory gastro-intestinal or physiologic nerve and eye disorders.

Philadelphia

Hospital News.—A new unit accommodating 143 patients will be opened at the Presbyterian Hospital, May 12.——Ground has been broken for a new Pulaski Hospital, which is to serve Polish-American citizens of Philadelphia, and a five-story addition to the Children's Hospital.——The Northern Dispensary, a Philadelphia landmark for 113 years, has transferred its activities to Temple University School of Medicine.

Cancer Control Center.—Facilities for the study and treatment of cancer have been augmented by a cancer control center recently established by the American Oncologic Hospital in cooperation with the Cancer Research of the University of Pennsylvania Graduate School of Medicine. Clinical conferences of the entire staff are held every Wednesday at noon to establish diagnosis and outline treatment of patients. Physicians are invited to attend these meetings and to bring their own patients after giving them preliminary study. The university maintains a cancer research laboratory in the hospital. The new division defines its aims as follows: to discover the causes of cancer, to develop measures for preventing it, to improve methods of treatment, and to furnish radium emanations to physicians or institutions requiring it.

Society News.—A symposium on common orthopedic conditions was presented before the Philadelphia County Medical Society, April 29, with the following speakers: Drs. Arthur Bruce Gill, on "Disabilities of the Foot"; DeForest P. Willard, "Postural Defects of the Spine—Their Diagnosis and Treatment," and James T. Rugh, "Low Back Pains Especially in the Sacro-Iliac Region."——The Pennsylvania Physical Therapy Association heard addresses by Drs. Charles R. Brooke and Mortimer N. Hyams, both of New York, on "Physical Therapy in the Treatment of Some Ear, Nose and Throat Conditions" and "Treatment of Chronic Endocervicitis by Conization," respectively, at an evening session following an afternoon of clinics at Jefferson Hospital, April 29.——The fifth annual meeting of the Southern Society of Clinical Surgeons was held, April 1-4, in Philadelphia, with one day's session in Baltimore. Clinics were held at University, Lankenau, Jefferson and Temple University hospitals and the research laboratory of the university presented experimental work.

TENNESSEE

State Medical Election.—At the annual meeting of the Tennessee Medical Association, Knoxville, April 13-16, Dr. Robert Caldwell, Nashville, was elected president; Drs. William H. Reed, Kingsport, Thomas R. Ray, Shelbyville, and John W. Oursler, Humboldt, vice presidents. Drs. John O. Manier and Harrison H. Shoulders, both of Nashville, and Ernest R. Zemp, Knoxville, were reelected treasurer, secretary-editor and speaker of the house of delegates, respectively. Memphis was chosen as the meeting place for 1932.

Society News.—Dr. Carl R. Crutchfield addressed the Nashville Academy of Medicine, April 21, on "The Practical Value of Radium in the Treatment of Certain Fibroid Tumors of the Uterus."——Dr. George R. Minot, Boston, delivered the annual Alpha Omega Alpha lecture at the Vanderbilt University School of Medicine, March 31, on treatment of anemia.——Dr. Harrison H. Shoulders, Nashville, among others, addressed the Bedford County Medical Society, March 19, on cholecystitis.——Drs. Ernest R. Zemp and August H. Lancaster, Knoxville, presented papers before the Green County Medical Society, March 10, on calcium therapy and cancer of the skin, respectively.——The Knox County Medical Society recently inaugurated a campaign to encourage inoculation against diphtheria.——Carroll, Henry, Weakley and Benton counties have recently organized a joint medical society, which met, April 7, with the following speakers: Drs. Virgil E. Massey, Huntingdon, "Pernicious Vomiting"; Roy A. Douglass, Huntingdon, "Eclampsia," and George R. McSwain, Paris, "Surgery in Pernicious Vomiting and Eclampsia."——Drs. David Townsend, Bristol, and Richard G. Waterhouse, Jr., Knoxville, addressed the Sullivan-Johnson Counties Medical Association, Bristol, April 3, on "Postinfluenzal Sequelae with Special Reference to the Lungs" and "Diagnosis and Treatment of Hyperthyroidism," respectively.

UTAH

Conference on Child Health and Protection.—A meeting of physicians, educators and public health workers was held, April 6-7, in Salt Lake City, under the sponsorship of Gov. George H. Dern, to consider the findings and recommendations of the White House Conference on Child Health and Protection and their application to Utah. The meeting was divided into sections on medical service, public health and administration, education and training, and handicapped children. Among physicians who participated were Drs. Garland H. Pace, William L. Rich, Samuel G. Paul, Theodore B. Beatty and Maurice M. Critchlow, all of Salt Lake City. Harry E. Barnard, Ph.D., Washington, D. C., director of the planning committee of the White House Conference, addressed evening general sessions.

WASHINGTON

Graduate Lectures and Clinics.—The annual course of lectures and clinics at the University of Washington Medical Department, Seattle, for practitioners of the state will be held, July 13-17. A full schedule will be provided from 9 a. m. to 10 p. m. every day, with the following speakers: Drs. William D. Haggard, professor of clinical surgery, Vanderbilt University School of Medicine, Nashville, Tenn.; John H. Stokes, professor of dermatology and syphilology, University of Pennsylvania School of Medicine, Philadelphia; George M. Piersol, professor of medicine, Graduate School of the University of Pennsylvania, and Carl Henry Davis, clinical professor of gynecology and obstetrics, Marquette University, Milwaukee.

WISCONSIN

Bills Introduced.—Substitute Amendment No. 1 to A. 366 proposes a new act regulating the sterilization of certain socially inadequate inmates of state institutions. A. 892 proposes to authorize the school board in any common or high school district to arrange with one or more physicians and dentists to examine school children. A. 852 proposes to exempt from the provisions of the basic science act industrial nurses, registered according to law, when administering first aid, applying dressings, or prescribing family remedies and medicines allowed by law to be sold without a prescription, for injured or sick employees or their immediate families. A. 865 pro-

poses to authorize the state superintendent to appoint a supervisor of physical education and two assistants to supervise physical education in all high schools in the state.

GENERAL

Research Workers in Child Development.—The committee on child development of the National Research Council announces that a revision of its "Directory of Research in Child Development" is in progress. In order to make this a complete list of all persons above the level of graduate students who are doing significant work in this field, the committee asks that those who have not received blanks communicate with J. Allan Hicks, National Research Council, Washington, D. C.

Society News.—The Maternity Center Association is sponsoring a nation-wide publicity campaign for Mothers' Day, May 10, to direct attention to the maternal death rate and to promote community interest in better maternal care. Community and local programs may be obtained from the Maternity Association, 578 Madison Avenue, New York.——At the annual meeting of the American Society for Experimental Pathology, Montreal, April 8-11, Dr. Samuel R. Haythorn, Pittsburgh, was elected president; Dr. Peyton Rous, New York, vice president, and Dr. Charles Phillip Miller, Jr., Chicago, secretary. ——Dr. Kendall Emerson, managing director of the National Tuberculosis Association, has been appointed acting executive secretary of the American Public Health Association, succeeding Homer N. Calver, resigned. Dr. Emerson will administer both organizations temporarily. He was graduated from Harvard University Medical School in 1901 and practiced surgery until 1916, when he served in the Royal Army Medical Corps. Later he served in the United States Army and from 1919 to 1921 was director of medical service in Europe for the American Red Cross. He became managing director of the National Tuberculosis Association in 1928.——The next annual meeting of the Society of American Bacteriologists will be held at Baltimore, December 28-31.

American Proctologic Society.—The thirty-second annual meeting of the American Proctologic Society will be held, June 7-9, at the Bellevue-Stratford Hotel, Philadelphia. Included in the program will be papers by Drs. Dudley A. Smith, San Francisco, on "Undergraduate Proctologic Instruction"; Frank C. Yeomans, New York, "Radon Needles in Treatment of Rectal Cancer"; Herbert T. Hayes, Houston, "Stricture of the Rectum," and Descum C. McKenney, Buffalo, "Injuries to Rectum and Anal Canal Due to Foods and Foreign Bodies." Mr. J. P. Lockhart Mummery, London, chief surgeon of St. Marks Hospital, will give a series of lectures on "Operative Treatment of Cancer of the Rectum," illustrated; "Diagnosis and Treatment of Diverticulitis," and "Treatment of Fistula-in-Ano." Dr. Fred W. Rankin, Rochester, Minn., will speak, Monday, on "Surgery of the Colon."

News of Epidemics.—Public and parochial schools were closed in Niagara Falls, N. Y., April 10, for two weeks in the hope of preventing the spread of cerebrospinal meningitis, which had caused six deaths during the previous week.——An epidemic of smallpox, principally among Negroes, in North Chicago, Ill., resulted in the closing of the public school of the district, April 9, and an order from the board of health that all teachers and students must present certificates of vaccination or be excluded from school for sixteen days.——Measles has been epidemic in Ohio since January, newspapers reported, March 31, when 750 cases were said to be under observation in Darke County alone.——Eleven cases of typhoid were reported in Savannah, Ga., during the first three months of 1931, in comparison with four cases in the corresponding period of 1930.

CORRECTIONS

Listerine.—In the report of the A. M. A. Chemical Laboratory (THE JOURNAL, April 18), solution F (p. 1304) contained 0.075 per cent of thymol, and *not* 0.75 per cent. In the third and fourth lines of the summary, page 1306, 0.4 per cent benzoic acid should read 0.04 per cent benzoic acid and thymol (about 0.75 per cent) should read thymol (about 0.075 per cent). These were typographic errors of a decimal point.

The Therapeutic Uses of Narcotic Drugs.—In Dr. Horatio C. Wood, Jr.'s, article in the series on the Indispensable Uses of Narcotics (THE JOURNAL, April 4), a mistake occurred on page 1143, second column. In the formula for the "asthma powder" the amount of sodium nitrate is given as 1 ounce but should have been one-half ounce. The correct formula is as follows:

	Gm. or Cc.	
Sodium nitrate	15	℥ ss
Stramonium	30	℥ i

M. Sig.: A teaspoonful to be ignited and the smoke inhaled.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 28, 1931.

The Trend of Medical Practice

In an address to the London Jewish Hospital Medical Society, Mr. Somerville Hastings, M.P., surgeon to the ear and throat department of the Middlesex Hospital, pointed out the tendency of the state to take many branches of medicine out of the hands of the family physician and control them in an organization of its own. Examples were public health, infectious diseases, lunacy, venereal diseases, tuberculosis, maternity and child welfare. The exigencies of research were demanding further centralization in the campaigns against cancer, rheumatism and maternal mortality, and in the grouping of orthopedic cases. This process was bound to continue, partly because it tended to greater efficiency and had contributed much to improving the general standard of health, and partly because the spirit of the age demanded collective action in meeting its needs. It was being recognized that the team and not the individual was the true unit in medical practice, as was shown in the modern hospital. The general practitioner should act as a liaison officer, maintaining contact with the patient throughout his treatment and coordinating the work of the team. He should have a definite place in the hospital system. There should be district clinics as places of first resort, rather than the private office or the outpatient department of a hospital. Mr. Hastings advocated the extension of the national health insurance system to all classes irrespective of income, thus providing a free national medical service for all, complete in every respect, including specialist service. The cost would be borne by the state, so that the burden would be distributed in accordance with the age-long principle of medical practice —"from each according to his means." The increasing demand for a state medical service must result in some such system. It therefore behooved the medical profession to anticipate this and insure the creation of a fair and efficient scheme. In previous letters to THE JOURNAL it has been shown that the British Medical Association has already taken this line. Of the evils of medical socialism, such as the excessive sickness claims for medical benefit under the national health insurance system, Mr. Hastings said nothing. As he is a socialist and, indeed, the most important of the small band of medical socialists in the profession, this is only to be expected.

The Milk Problem

The recent criticism of the country's milk supply by Lord Moynihan was reported in THE JOURNAL, March 14, page 873. In an address to the Leeds Luncheon Club he returned to the subject and said that the position was graver than he had indicated. He had no quarrel with the farmer, except that the milk he produced was so often contaminated. This country had roughly 1,000,000 farms; of these only 400 produced "grade A" milk free of tubercle bacilli. The remainder produced milk in which he had no confidence whatever. He regarded all milk as falling into two categories—that which was free from tubercle and that which was not. At a minimum estimate, 40 per cent of our cows suffered from tuberculosis. Of the cows slaughtered in London, 33 per cent were affected with tuberculosis, and in Edinburgh 42 per cent. Moreover, 31.5 per cent of tuberculosis in children under the age of 15, and 57 per cent of the cases of enlarged tuberculous glands, had been proved to be due to drinking contaminated milk. Experiments proved that children given pasteurized milk had their weight increased not by 3.85 pounds, which was the normal increase in the period during which they were under observa-

tion, but by 6.98 pounds, and that their height increased by 2.64 instead of 1.84 inches. Physicians had never disputed that milk was the best of all natural foods, but the people of this country did not drink nearly enough of it. We drank only half as much as the population of Canada, one third as much as the Americans, and one sixth as much as the Scandinavians. But milk ought to be the pure unadulterated product of the cow and it seldom was. Had any one ever seen a clean cow? Contamination was rife. The result was that few outside the ranks of physicians realized the number of diseases it produced. In 1928, milk produced in London an outbreak of 400 cases of surgical tuberculosis; 100 people died every day from tuberculosis.

Married Women Physicians

From many appointments women are discharged on marriage, because it is considered that the duties of marriage and motherhood are not compatible with the full performance of other duties. The subject came before the management board of the Birmingham General Hospital as a resolution moved by the chairman, Miss Bartlett, that woman physicians should be discharged on marriage. She said that she regarded the career of a married woman and a mother as a high one and did not think that any woman could carry on two careers successfully. Opposition to the resolution was led by the Bishop of Birmingham, Dr. Barnes, F.R.S., the modernist, who is also a distinguished mathematician. He argued that, now that it was conceded that women had demonstrated their ability as physicians and surgeons, the hospital could have no reason for refusing to employ them and would not be justified in terminating the appointment of woman members of the staff on marriage. He did not believe that a modern community would permanently accept the principle that a woman could be dismissed from any position she was qualified to hold because she had children following marriage. As a principle of good citizenship, occasional absence on periods of leave for childbirth ought to be willingly granted. The suggestion that the services of married women physicians would be repeatedly withheld for domestic reasons could not be sustained. In the medical profession the limitation of families was more stringent than in any class of the community. The resolution was defeated by 22 votes to 19. The position that there should be no such thing as sex disqualification in any form is always maintained by feminists in this country.

The Development of Medical Psychology

In recent years, increased attention has been given to medical psychology in this country. The senate of the University of London has decided to institute a chair of medical psychology at the London School of Hygiene. The new chair is to specialize on the relevance of the subject to the problems of industry. A proposal is also afoot for the affiliation to the university of an institute of medical psychology in its particular hearing on the psychoneuroses. The senate has expressed interest in the matter and invited information on further developments. The Tavistock Square Clinic for Functional Nervous Disorders, of which the honorary director is Dr. Crichton-Miller, has become a highly popular school of psychotherapy. It gives teaching in three main ways: (1) an intensive fortnight's course in alternate terms; (2) a course held about once a week and attended by about seventy physicians; (3) in the training and tuition of clinical assistants in psychotherapeutic methods. In addition there are courses for social workers, nurses and educationists. The proposed institute of medical psychology results from a desire to extend the work of teaching, research and treatment at the clinic. There are to be twelve fellowships, which in themselves will involve an organized educational system. The postgraduate courses are expected to expand under the impetus of the new mental treatment act. The project means an even narrower specialization in psychologic medicine than is practical at such an institution as the Maudsley Hospital.

A Trap for the Tsetse Fly

The problem of destroying the tsetse fly, the carrier of trypanosomiasis to man and of nagana to cattle, has seemed insuperable. The clearing of protective strips from grass and bush, even if sometimes efficient, is costly and local. The extermination of wild animals, on the disputed theory that they form a permanent reservoir of the disease, is repulsive and a menace to the unique fauna of Africa. Mr. R. Harris, an entomologist engaged in the campaign against tsetse flies in Natal, has invented an ingenious trap which requires neither watching nor baiting. It is made of strips of wood, wire netting and hessian cloth at a cost of about $7. Any carpenter can make it. It is triangular, the flat top being 6 by 3 feet and the sides converging to about 3 inches apart, with an open narrow slit along the bottom. The body is slung on wires so that the slit is from 12 to 18 inches from the ground. To the flat upper surface is fixed a transparent cage of wire gauze. Where the cage fits to the flat surface the cloth is removed and the wire arranged so that there is a nonreturnable entrance for the flies from the hollow body of the trap, on the principle of glass traps for wasps and flies. The traps are suspended on the sunny edges of evergreen bush, the haunts of the flies, and are so placed that they throw a separate shadow. In suitable weather they catch from 100 to 200 flies daily. As they are not prolific insects, it is hoped that a steady assault of this kind on the species will be damaging. The rationale of the device is that the flies hunt by sight and not by smell. Wandering along open spaces amidst leafy bush they alight to explore horizontal masses, animate or inanimate, when these are in tonal contrast with their surroundings. The suspended trap would look like the body of an animal raised from the ground on its legs. When they alight on the trap their instinct is to crawl downward (as they do on animals) and, reaching the slit, they pursue their way into the hollow cavity. Finding themselves trapped, another instinct makes them fly to the light, which shows through the wire gauze.

PARIS

(From Our Regular Correspondent)

March 18, 1931.

Production of Tetanic Anatoxin

Mr. Ramon, in creating anatoxins, has produced therapeutic anti-infectious agents of a high degree of potency and, at the same time, devoid of harm. His diphtheritic anatoxin is used today throughout France, having replaced completely the serum formerly employed for antidiphtheritic vaccination. By applying the same mode of preparation—the neutralization of the toxin by means of formaldehyde—he has obtained a highly potent tetanic anatoxin. Recent researches, undertaken in collaboration with Dr. G. Lemetayer, have enabled him to increase considerably the production of antitoxin in horses by adding powdered tapioca to the antigen injected into these animals. After this hyperimmunization, which required thirty-five days, he was able to secure serums titrating from 1,200 to 10,000 international units per cubic centimeter. These results are greatly in excess of any that have been reported. There is thus a saving of time and of antigen and a considerable increase in the amount of antitoxin produced. The antitetanic serums thus obtained, the high antitoxin potency of which can be still further increased by the process of purification, afford excellent facilities for the treatment of tetanus, while they allow a reduction in the volume of specific fluid to be injected.

Progress of Sanitary Aviation

The recent annual aeronautic exposition was the occasion for the exhibition of numerous types of apparatus that attest the constant progress of sanitary aviation. Under the auspices of the Société des amis de l'aviation sanitaire, which has a strong membership, the Etablissements Potez exhibited three airplanes

equipped for the transportation and evacuation of the wounded, types 29, 33 and 42. Type 29 is equipped for the transportation of two patients on superimposed stretchers, together with a nurse seated. The nurse has easy access to the stretcher during flight and also to a medicine cabinet. The interior arrangement of the cabin permits easy disinfection. In type 42, a surbased monoplane, with Mesnier wheel brakes, the stretcher rests on four elastic supports, which assures perfect suspension. The Société provençale de constructions aéronautiques exhibited a trimotor plane entirely of metal and susceptible of being utilized for sanitary evacuations. The cabin has a place for the nurse, with a seat, small table, medicine chest and stationary washbowl. A door with a large longitudinal opening permits the introduction and the easy removal of patients on stretchers, an ordinary door being provided in the longitudinal partition opposite. The cabin can be readily ventilated by adjustable sliding windows, and, if need be, can be heated by the circulation of air previously warmed by passing through the exhaust pipes of the central motor. Equipped for sanitary work, the total weight is about 2,900 Kg., or something over 6,000 pounds. The airplane, loaded as indicated, can make good speed with any one of the three motors arrested. The Blériot-Guillemin monoplane J. G. 40 is a semimetallic cantilever monoplane, designed especially for use in the colonies. The pilot is located back of a large sanitary cabin nicely adjusted so as to occupy the center of gravity of the whole. The entrance door can be lowered horizontally so as to serve as a table for the preparation of dressings. A large glass panel makes it possible for the pilot to inspect the patient during the flight. The motor is a 120 CV Salmson.

Mention should be made also of the Nemirovsky sanitary scouting plane, with or without caterpillar equipment. This model, of which the minister of aviation ordered several sample machines, is designed to meet the needs of the sanitary service and of the air minister. In it a patient on a stretcher can be transported under the surveillance of a physician, the latter being able to render aid to the patient. This plane can be equipped with the caterpillar device, which enables the pilot to land almost anywhere and within a restricted area. Furthermore, the pilot's box has a double seat, which makes it possible to use this plane for instruction purposes. During his leisure, the physician can learn, under the instruction of the pilot, to guide a plane, so that he can manage the plane alone in case of urgent necessity. The Etablissements Lioré and Olivier exhibited a hydroplane, of the type Leo H-197, with a Gnome and Rhone Jupiter motor, adopted by the French marine. It is a shell-like design, equipped for the transportation of two patients on stretchers, one wounded man seated and a nurse.

Creation in Tunisia of a Bureau of Social Hygiene

The bureau of social hygiene recently created at Tunis is a model institution which will be administered by a council composed of the directors of large enterprises, representatives of the grand council, functionaries attached to the public and the welfare services, and persons qualified to represent the medical profession and associations that have social hygiene as their chief purpose. This council will be supplemented by five technical committees charged respectively with the protection of children and the campaigns against child mortality, venereal disease, tuberculosis and trachoma. Furthermore, there is created in each region a committee that has the same purposes in view. The regional committee will bring together all the societies dealing with the campaign against social diseases, in order to coordinate all endeavors tending to protect the public health, to collect and to keep up to date the records pertaining to the organization and the functioning of all societies participating in the campaign against the various social diseases, to inform the bureau of social hygiene of the needs of the region in the matter of social hygiene, to collect statistics pertaining to social diseases, to express an opinion on all proposals coming from private sources, to serve as a center for the consideration of requests for aid from social organizations of the region and to transmit them to the bureau, to create local committees for collecting funds to aid the dispensaries, or to facilitate the creation of aid societies capable of supplementing the work of the dispensaries.

Traffic in Narcotics at Franco-German Border

The traffic in narcotics requires in France most careful supervision. A brigade of special police is entrusted with this task, for the schemes of illicit traffickers are innumerable and can be ferreted out only by persons who have had a wide range of experience in this field. As almost all the cocaine comes from Germany, where it is produced at low cost and sold at a price that gives the traffickers an enormous profit, the frontier between France and Germany requires the most attention, although German cocaine sometimes finds its way into France across the Belgian or the Swiss border. The aviators and the railway employees are constantly under suspicion. An amusing incident occurred recently at Metz, where an illicit trafficker, a bookseller by trade, had ordered 600 Gm. of cocaine in Germany and had sent his own daughter to bring it across the border concealed in a brief case containing numerous pamphlets. He was arrested in a restaurant by members of the special police just at the moment his daughter delivered to him the package. The supposed cocaine was seized and sent to a laboratory where analysis showed that the white powder was only a mixture of sodium bicarbonate and saccharin. The trafficker had been duped by the German merchant, who had sold him for 5,000 francs ($200) a product that might have been worth a dollar at the most. In order that the trafficker might not escape punishment, the court imposed a fine for bringing in saccharin without payment of duty.

Lecture on Dengue

Professor Bensis of Athens delivered recently in the Great Hall of the Faculté de médecine two addresses on dengue and kala-azar, which were attended by the instructional corps of the Faculté in a body. He brought out that the epidemic of dengue in Greece in 1929 had demonstrated the accuracy of the opinions expressed, after the epidemic in the Philippines, by Siler Hull and Hutchens; namely, that the infectious agent of dengue is transmitted solely by *Stegomyia fasciata,* which is responsible also for the transmission of yellow fever. The observations made at Athens by Blanc and by Caminopetros leave no doubt on the subject. The stegomyia mosquito becomes infected by biting the patients but does not become infective until eight days later, and then remains infective during its life cycle, which may extend over 200 days. However, it should be noted that the infected stegomyia mosquito loses its infective properties as soon as the temperature of the atmosphere falls below 20 C. (68 F.). At a temperature of 16 C. (60.8 F.), it becomes absolutely noninfective; but it regains its infective properties when the temperature rises above 20 C. This fact explains the momentary arrest of the epidemic during the winter months and its return in the spring. The infective agent is a filtrable virus that never leaves the mosquito that is once attacked. Since the virus of dengue is active in the blood of patients only during the first days of the disease (often up to the fifth but no longer), human patients can be a reservoir of the virus for only a few days, capable of developing and maintaining an epidemic, whereas the infected stegomyia mosquito is the reservoir that serves to maintain an epidemic and as a connecting link between various epidemics. Attempts to produce immunization have been made with the virus cultivated in a free medium and the outlook is somewhat encour-

aging. In closing, Professor Bensis stated that the dengue of the Mediterranean and the tropical type are absolutely identical, and expressed surprise that there could be any confusion of dengue, the disease due to the stegomyia mosquito, and three-day fever, a disease due to the bite of the sandfly, *Phlebotomus papatassii*. He considers also that, since the publications of Blanc and Caminopetros and of Stephanopoulos, the confusion of yellow fever and dengue is hardly excusable.

BERLIN

(From Our Regular Correspondent)

March 23, 1931.

Observations on the Treatment of Gastric Ulcer

Professor Morawitz, a clinician of Leipzig whose views always receive careful attention, discussed recently, before the Leipziger Medizinische Gesellschaft, certain new observations on the treatment of gastric ulcer. The hourly meals, in accordance with the Sippy method, are recognized as effective. It cannot be regarded as proved that long continued administration of alkalis, if the quantities are not exaggerated, is injurious. On account of the analgesic effects of alkalis, their use in general practice will be retained. However, Morawitz warns against the heavy doses of sodium bicarbonate such as were administered in the original Sippy treatment (up to 32 Gm. of sodium bicarbonate in twenty-four hours), as symptoms of alkalosis have been observed. Atropine is likewise an effective remedy in the treatment of ulcer and should perhaps be used more than it has been; the dose must be determined in each individual case, as one should approach the limits of intoxication. Protein therapy has been tried in numerous cases at the Medizinische Klinik in Leipzig. On the whole, it does not appear that this mode of treatment is particularly effective. The most that can be said is that ulcer pains occasionally disappear following its application. Morawitz reported further on the results secured, during the past four years, at his clinic from jejunal feeding in gastric and duodenal ulcer. A total of 153 patients have been treated by this method; there were thirty-six cases of gastric ulcer and 117 cases of duodenal ulcer. The duration of tube treatment ranged from twenty to fifty days. No harmful effects were observed. During the period following the treatment, all patients were free from subjective symptoms. Recurrences developed in 20 per cent of the cases of gastric ulcer and in 10 per cent of the cases of duodenal ulcer. Roentgenologic examinations carried out in a part of the cases showed a healing of gastric ulcer in more than 80 per cent and of duodenal ulcer in 45 per cent of the cases. Roentgenologic changes were observed in a large gastric ulcer and in six cases of duodenal ulcer. The results of the treatment are no doubt better than with any other internal treatment, and in many cases that would otherwise have to be turned over to the surgeon a cure can be effected. A differentiation of the indications for surgical and internal therapy is important. Aside from the strict indications for surgical treatment (namely, pyloric stenosis and perforation), such cases should be turned over to the surgeon in which repeated treatments have had no permanent results. Also the social indications must be taken into account, as a large proportion of the patients will find it impossible to follow a restricted diet for months or years. Earnest cooperation between the surgeon and the internist is of the greatest importance in the field of gastric ulcer.

The Psychology of the Party Movement

The German people is today, more than ever before, split up into parties that do not understand one another and that combat one another. But this trend toward the formation of parties is a fundamental expression of human character, for it is a normal human quality to espouse a cause supported by a party, and when this inevitable outcome of human characteristics is considered it will be seen how useless it is to try to convince others of one's point of view—how much energy and will power are wasted. This is the judgment reached by the Freiburg psychiatrist Prof. A. E. Hoche in an article dealing with the psychology of party affiliation. The fundamental basis for the formation of parties does not lie so much in the strife of contending views and aims as in the diversity of personal character, which has arisen through hereditary influences or has been acquired. The impulse to espouse some party or other that characterizes every person will not lead him to fraternize with any group as chance may dictate without the exercise of choice; but his whole personality will drive him, from force of necessity, into the ranks of one party or the other. The influence of this permanent mental quality is of course most apparent in all the extreme political movements. At one pole are the radicals, who are eager for revolutionary changes. The right to be radical, Hoche continues, is the privilege of youth. In all revolutionary movements the filling is made up of younger persons—immature and semimature. Every person who recalls his own development remembers from his youth the period of absolute convictions, the hundred per cent opinions, the happy period in which the wings of life were not yet burdened by reflection or clipped by disappointment, in which one believes in the power of ideas and in his own strength, the period also of enthusiastic willingness to sacrifice one's life, if need be, for a beloved cause. Radical, for the most part, are the problematic natures, the stranded and the embittered, the psychopaths with the unquenchable thirst for adventure—for sensation, but then, too, many sorts of mental patients, chronic paranoiacs, epileptics, weakminded subjects, and the like—all of that class whose day does not begin until Reason has lain down to rest. On the features common to these types rests the family resemblance in the configuration of all smaller and greater revolutionary movements, which appears independent of time and place. Herein lies the proof that we are concerned with "laws" that are preformed in the psyche.

Radicalism is not identical with fanaticism, which is based on a narrowing of the mentality and a monotonous range of ideas. The opposite pole to the radical mental state is the conservative, for which advanced age constitutes a predisposition. The normal life curve of political belief leads usually from the radicalism of youth to more and more conservative views. The reasons for this development, which follows what may almost be regarded as a general law, are partly of a physiologic and partly of a psychologic nature. With advancing age and the consequent diminished turgor of the tissues and the lessened mental energy, there is a strong tendency to consider the status quo as appropriate. Old age demands rest and inclines to the principle "What is quiet must not be disturbed." The aging person (especially if he has a talent for meditation) has usually acquired some insight into life. He knows the constant repetition of the same old things and has lived long enough to have noted the swing of the pendulum in all affairs. He is convinced of the relativity of all momentary values. He knows the limitations of human endeavor and has learned resignation. Another form of conservative belief is based on a psychic permanence the main characteristic of which is the repudiation of everything new, and just because it is new. Because of his love for the past, the conservative becomes a romanticist. Between these two extremes of mental attitude are the middle groups, among which liberalism stands out most clearly as a world view. For that trend of thought, the author assumes as a precondition a disposition toward a calm consideration of the pro et con in connection with every question that arises, together with an endeavor to form correct judgments unaffected by the emotions. It is evident, therefore, that real liberalism can be the mental attitude of only such persons as possess lofty minds and that true liberals are found chiefly in such periods of development in which strong intellects rather than strong fists are the prevailing influence. Periods of unrest, distress and despair drive the souls of men toward the two extremes of thought and action. These

three groups constitute the fundamental psychic disposition that determines what party a person espouses and supports. It is of course true that the various political parties present various combinations of these three elements, as determined by the epoch, the circumstances and the individual personalities that are brought together in the large groups.

VIENNA

(From Our Regular Correspondent)

Feb. 25, 1931.

Sterilization of Defectives

Professor Dr. Höpler, the attorney general of Austria, recently delivered an address before an audience of physicians and members of the legal profession on sterilization of persons whose offspring would constitute a menace to human society. Dr. Höpler approved the principle of compulsory sterilization on eugenic grounds and goes further than the new penal code in Austria and in Germany has proposed. He called attention to the principles held in the United States, the application of which more especially to the inmates of prisons and of many institutions for psychopathic patients has made possible compulsory sterilization. In Europe, the idea of "prevention of undesirable progeny" has been thoroughly discussed by many well known authors; in which connection the possibility of sterilization of women who have repeatedly given birth to children by unknown fathers was considered. The question has been raised as to whether the existing penal code justifies sterilization, and whether such an intervention could be made a threatened and an imposed penalty. The penal code of Austria provides that an operation performed for other than therapeutic purposes is subject to punishment on the ground of its being a serious bodily injury. The operator who performs such an operation involving "bodily injury" can be punished by a long prison sentence. Only a few months ago a well known surgeon in Graz who performed a vasoligation on a number of men was compelled to pay a heavy fine. There are certain modifications proposed that would make the penal code of Germany and Austria identical. According to the code as drafted, the operation to effect sterilization, if it is carried out *lege artis*, with the consent of the patient, shall not be subject to punishment. Sterilization will not, however, be designated as a threatened penalty nor as an alternative punishment on which the shortening of a jail or prison sentence is contingent. Professor Höpler would like to see sterilization entirely independent of the penal code. He recommends the incorporation in the penal code of a law providing that all patients from whom only mentally and bodily defective offspring are to be expected may, through the operation of a judicial decree, be subjected to sterilization. Such a measure should be applied with the greatest caution and only under the most careful state control. All possible precautions, such as the right of appeal to higher courts, the right of relatives or a spouse to raise objections, and the right of appeal to experts, must guard against possible errors. A centralization of such interventions, even though the operation is "voluntary," should be an absolute requirement. The operation should be permitted only in public institutions.

Increased Frequency of Hyperthyroidism from Iodine

At a recent meeting of the Wiener Gesellschaft der Aerzte, many observers called attention to the rapidly increasing susceptibility of Vienna's population to iodine. Following an address by Dr. Raab of the first Klinik für innere Krankheiten, the following observations were reported. Out of scarcely 2,000 women who came to the clinic, a hundred women with distinct signs of hyperthyreosis were found. These women had previously ingested iodine. This number constitutes 5 per cent of the whole outpatient department. Recent years have brought a striking increase in this disease in Vienna. A careful inquiry into the personal histories of the cases reported by Dr. Raab has shown that the iodine that these patients received was administered orally or in the form of skin applications. Many patients had used considerable quantities of iodized salt, which is sold now generally in Austria. On recommendation of Prof. Dr. Wagner-Jauregg, the whole population of Austria is supplied only with iodized salt, as a move to prevent goiter in juveniles. To a kilogram of salt, 5 mg. of iodine is added. Through this action, goiter in children has been almost entirely suppressed. But it appears that adults who are predisposed react to the iodized salt with symptoms of exophthalmic goiter, which would seem to indicate that the susceptibility of the adult population to iodine has been increased. The surgeons present confirmed that a considerable increase in cases of exophthalmic goiter has been observed, and no other cause for an increase in the amount of iodine ingested other than in iodized salt could be discovered. Professor Blum, who specializes more or less in surgery of the kidney, showed by the presentation of statistics the connection between the increase of exophthalmic goiter and renal calculi, and emphasized that the parallelism was remarkable. Several internists, Prof. Dr. Zak, Dr. Schlesinger and others, emphasized that it is hardly justified to ascribe the evident increase in iodine injuries to the quality of Austrian salt; but the greater susceptibility of adults in Vienna is striking. It must be remembered also that the individual disposition to exophthalmic goiter is greater in elderly persons than in juveniles, who readily stand iodine in considerable quantities. The goiter prophylaxis inaugurated by Wagner-Jauregg has had excellent results; but the population must not be deprived of the opportunity to secure salt that is free from iodine.

The Death of Prof. Friedrich Kovacs

In the recent death of Prof. Dr. Friedrich Kovacs, Vienna has lost a scientist who was known over Europe as a brilliant diagnostician, an excellent research worker and an eminent teacher. Many American physicians studying in Vienna sought him out. His courses were always well attended. His chief studies concerned the diseases of the circulatory and respiratory organs. No publication left his hands until he had revised it again and again, so that every word presented an unequivocal significance, clearness and correctness. Hence, the number of his published works is small, but they are for that reason all the more valuable. He had the ability of awakening in his pupils to whom he assigned themes for elaboration a love for scientific accuracy. He died shortly after the completion of his seventieth year, after having served for forty years as the director of the department for internal diseases in the Vienna General Hospital.

Blood Cultures in Tuberculosis of the Skin

At one of the recent sessions of the Wiener Gesellschaft der Aerzte, Professor Dr. Kren, dermatologist, and Dr. Löwenstein, pathologist, reported on their attempts to demonstrate the presence of living tubercle bacilli in the blood, by means of blood cultures, in connection with tuberculosis of the skin, tuberculids and lupus erythematosus. Of sixty-six cases studied, positive results were secured in forty-one, while twenty-five remained negative. Further, Professor Löwenstein carried out such researches alone, on blood secured from other centers: 205 cases from Vienna with 87 positive results; 36 cases from Hamburg with 8 positive results; 16 cases from Groningen with 4 positive results, and 90 cases from the Finsen Institute in Copenhagen with 18 positive results. The samples of blood sent in from other institutions did not all originate from tuberculous patients; they were sent in, all mixed together, for purposes of control. The results showed the necessity, in every case of suspected tuberculosis of the skin, to perform a blood culture, as this permits a direct demonstration of the living virus in the blood. The indirect methods, such as complement fixation, agglutination and precipitation, were found to be of no value. The blood culture, however, is superior even to the tuberculin test, as the

latter test does not reveal whether one is dealing with an active or inactive tuberculosis. Also animal experimentation has, in comparison with the blood culture method, the disadvantages that it is slower and does not give as regular results. The genesis of certain tuberculosis of the skin and of "tuberculids" is ascribable to the circulation of living tubercle bacilli in the blood. Likewise in lupus erythematosus the tuberculous etiology is highly probable, as the results of the blood cultures were often positive. The observation was made that in winter and autumn positive cultures are found less frequently than in the spring. Löwenstein emphasized that the method he had devised must be strictly followed. He has tried it in more than 2,000 cases. His method is used constantly by Clairmont at the surgical clinic in Zurich. Assistants were sent to Löwenstein in Vienna to study his method by Professor Madsen, the chairman of the health section of the League of Nations in Geneva; likewise the Pasteur Institute in Paris, and the Klinik Brauer in Hamburg. Exact controls are still needed, and all dermatologists and pathologists are urged to participate.

CAPE TOWN

(From Our Regular Correspondent)

Feb. 27, 1931.

Physicians and Publicity

The profession in South Africa is in many ways conservative. Its tradition is mainly that of the London and Edinburgh schools. Since the beginning of the century, however, more and more men who have qualified in America or on the continent have been registered. The difference between the English tradition and that of the continental schools is strikingly seen in the attitude of the two schools toward "advertising." The English school meticulously eschews anything that may savor of advertisement. The continental school takes a common sense interpretation of the term "advertisement" and condemns only such advertisement as is clearly designed to attract patients or to enhance the commercial value of the practitioner's services. With the formation of the South African Medical Association, five years ago, these differences were discussed and amicably settled in the code of ethics, which lays down what may to all intents be called the common sense view. Under this code, practitioners may lecture to laymen on health subjects provided they gain the permission of their local branch to do so. Nothing can stop them from taking part in discussions on matters in which they have an ordinary citizen's right to be heard, although naturally the association deprecates the publication of letters in the lay press in which physicians sign their names with degrees appended. The public is still in the dark as to what physicians are permitted to do, write or say in public. Some practitioners appear to be just as much at sea. Lately two branches of the association have queried the right of their members to write in the lay press about radium. In neither case was there any infringement of professional ethical regulations; in both cases the subject was of interest. The articles conveyed information to the public and they showed no intention to advertise the men who wrote them. A month ago, Durban, one of the three large cities, held a much advertised "health week" which was admirably organized, and all sections of the community took a part except, apparently, the medical profession. The local press, commenting on this, deplored the attitude of aloofness which the profession was maintaining and declared frankly that the public would not tolerate it but would, in self defense, appeal to the state to give it such information as it wanted. The journal of the association guardedly agrees with the lay press and points out that unless the profession instructs the public there is every reason to believe that the advice of quacks and healers will be followed. Whether this admonition is likely to produce much result remains to be seen. The conservatism of the profession is such that there would be opposition to the local association doing what the Canadian association is doing—writing articles for the lay press. Indeed, the profession here seems to hold much the same view as that adumbrated by Dr. Robert Hutchison in his lecture on health at the last congress of the British Medical Association. He vehemently opposed the modern tendency toward enlightening the public and frankly adopted the attitude taken by physicians a hundred years ago of portentous solemnity, owl-like wisdom, and oracular utterance. It is hardly likely that South Africa will be pleased with such an attitude by the medical association, and there are signs that a reaction is coming.

Venereal Disease in the Union

The popularity of the municipal clinics for the treatment of venereal disease appears to have led to the false assumption that these diseases are on the increase. The statistics that can be obtained are incomplete and there is no evidence to warrant the statement that syphilis is largely on the increase. What probably accounts for the assumption is that formerly few patients voluntarily sought treatment for that disease, while many do so now. The result is that attendance at the municipal clinics has increased by 45 per cent during the past two years. These local authorities are doing excellent work. One authority concerned with a large semirural population has inoculated the colored and native population against diphtheria and tuberculosis, not to mention typhoid. Oral inoculation against typhoid is favored; for tuberculosis the Calmette-Guérin vaccine as supplied by the Institute for Medical Research at Johannesburg is used. A toxoid manufactured by the same institute is extensively used by local authorities for inoculation against diphtheria. Tuberculosis and typhoid are this year particularly troublesome, owing to the drought, which has greatly added to the difficulties of hygienic living in some districts where over crowding and malnutrition are common.

Medical Education for the Natives

The question of facilities for medical education for the natives has always been before the profession. The native practitioner is in favor of allowing the native medical student to have the same privileges as his European fellow student. Public opinion is against white and native students working in the same hospitals where white as well as Negro patients are admitted. The universities recommend parallel classes and a special native hospital, but the capital for that is wanting. Last week some medical men met by invitation Dr. Jesse Jones of the Phelps-Stokes Foundation, to discuss this matter, and it was said that the union government had turned down the Carnegie trust's offer of £70,000 because the prime minister refused to allow "an outside body to have any say in the universities" and the minister of finance refused to "allow white men to be taxed to pay for native education."

Regulations for Medical Students and Practitioners

The regulations demand that every one who wishes to register as a medical student shall show proof of having a general education of a standard that the council may deem fit. The matriculation examination of local universities is accepted as such a proof, provided the student has passed in mathematics. It does not matter if he does not know Latin or English—for the matriculation examination can be taken with Afrikaans as the medium, it being competent for candidates to select one of the two official languages and to take a choice in other subjects, while his knowledge of the second official language need be merely rudimentary—so long as he knows mathematics. This regulation has been severely criticized, and the official journal of the association points out that in other respects, too, the regulations are open to objection. In the preliminary studies special stress is laid on botany, and the student is forced to spend much time in obtaining what can after all be merely an elementary knowledge of botany, which will be of little or no use to him in his professional life. The age limitations have

also been criticized; no qualified medical man can be registered until he has "attained the age of 22 years." Equally arbitrary seem to be the council's regulations for the registration of medical qualifications obtained elsewhere than in South Africa. The position here is laid down by act of parliament. Two conditions must be met before a foreign qualification becomes registrable. It must entitle the holder to practice in the country of origin, and it must be granted by a body that accepts our South African medical degrees. There must be reciprocity, except in the case of South African students, for whom special provision is made in the act. Moreover, the council must be satisfied that the qualification obtained abroad has been granted after an examination the equivalent to those examinations for the final degree in use here. Under these conditions the M.D. of a continental German, Dutch, Swiss or French university which does not entitle its holder to practice medicine in the country of origin is not registrable here, except when granted to South African students under special circumstances. The state examination in these countries is, however, accepted as a registrable qualification. The council has now issued a list of the qualifications, degrees and diplomas it is prepared to accept for registration, and this list is rather a curious one. Degrees conferred by universities are apparently not registrable while the diplomas granted on such degrees, and the licenses to practice, which would never have been granted to those not in possession of such degrees, are registrable. Postgraduate qualifications, apparently, are also not registrable in some cases. Special qualifications are not registrable. Applicants from the United States of America must possess a certificate from the medical board of the state in which their university is situated, but, curiously enough, the certificate of the National Board of Examiners is not recognized, while the council seems to be under the impression that a graduate will always and necessarily take the state board examination in the state in which he has been a student. It is equally curious to note that such schools as the Columbia University and the Universities of Pennsylvania and Michigan are not included in the list of "recognized medical universities." Attention has been drawn to these points, but it might be well for the profession to instruct the council better in future and prevent the publication of draft regulations which sooner or later will have to be considerably modified.

RIO DE JANEIRO

(From Our Regular Correspondent)

March 15, 1931.

Prophylactic Treatment with Virus and Serum in Yellow Fever

Dr. Henrique de Beaurepaire Aragão, head of the Institute Oswaldo Cruz of Rio de Janeiro, has reported the results of studies recently made on the prophylaxis of yellow fever. He concludes that the technic of a combined treatment with a virulent yellow fever virus and serum is simple and the results obtained hitherto in experiments prove that the method confers immunity to the animals in which it has been used. It is believed that the same good results should be obtained if the method were used in human beings. The easy transportation of both the virulent dry yellow fever virus and the serum affords the opportunity of the use of the method in any locality in which prophylaxis against yellow fever seems indicated. To have his method tested and popularized, the author advises its use in several centers devoted to the study of prophylaxis of yellow fever.

Experiments with Leptospira

Dr. Eduardo de Araujo, privatdozent of the Faculty of Medicine of Bahia, has performed some experiments with some strains of *Leptospira* to find out whether the strains of *Leptospira* which former research workers discovered in the blood of yellow fever patients should be considered as being associated micro-organisms, secondary invaders or "virus de sortie." Young guinea-pigs, weighing about 100 Gm., were injected by the intraperitoneal route with cultures of free-living strains of *Leptospira* isolated from water. The inoculation was preceded, followed or in association with a subcutaneous injection of 2 cc. of yellow fever virus of the Asibi strain. Cultures made according to Bauer's technic with blood obtained by puncture of the hearts of guinea-pigs, at several intervals after the inoculation with *Leptospira*, failed to show the presence of the organism in the blood. The author believes that yellow fever does not increase the virulence of nonvirulent strains of *Leptospira* which live in the patient's organism before he becomes infected with yellow fever. He also believes that the strains of *Leptospira* which the patients ingest in drinking water cannot reach the intestinal mucosa. On these grounds, the observation of virulent strains of *Leptospira* which are found in some patients with yellow fever has a difficult explanation, unless an error in the clinical diagnosis is admitted. The differential diagnosis between some cases of yellow fever and some cases of Weil's disease is rather difficult. Before the susceptibility of the rhesus monkey was discovered, it was sometimes impossible to differentiate the two infections. The most plausible explanation for the cultures positive for *Leptospira* obtained from blood of some yellow fever patients is the association of the two infections (yellow fever and Weil's disease).

Studies on Psittacosis

Dr. Genesio Pacheco recently lectured before the Sociedade de Biologia of São Paulo on the researches made last year on psittacosis in the Instituto Biologico of São Paulo. Two new diseases were found in parrots, one of which is caused by a filtrable virus and the other by bacteria. The virus keeps its virulence even if placed at a temperature of 55 C., it dies at a temperature of 65 C., and it is destroyed by the action of slaked lime or by pure alcohol, while it withstands the action of alcohol when the later is diluted to 50 per cent. The virus, when kept in glycerin, retains its virulence, but when it is submitted to the process of drying it becomes inactive in short time. The liver and the spleen of infected parrots proved to be the most virulent organs. Feces are less loaded with virulent material than the organs mentioned above. Studies were also made of the degree of sensibility to the inoculation in relation to the different route through which it is made. Bacteria proved to be of a special type which is dissimilar to that which the French bacteriologist Nocard found and to which the name of *Salmonella nocardi* has been given.

JAPAN

(From Our Regular Correspondent)

Feb. 20, 1931.

The Cause of "Flood Fever"

Dr. R. Kawamura, professor in the Niigata Imperial Medical College, has published the results of his long study of the infectious disease tsutsugamushi, which is endemic in the villages on the river Shinano in the Niigata Prefecture. Years ago von Bealtz, then German professor of the medical department of the Tokyo Imperial University, first proved it to be an independent disease and named it "flood fever," though the name tsutsugamushi or akamushi disease had been popular among the people. Japanese investigators have tried to discover the cause since then. Dr. Kawamura has at last demonstrated Rickettsia prowazeki in the red mite and in certain tissues of experimental animals with the aid of his assistant Dr. Imagawa. It seems that there is still a gap before the connection is established between this newly discovered *Rickettsia*, the causative agent of tsutsugamushi, and that of typhus fever, because he has not yet been able to demonstrate it in human material. For two hours the professor addressed the Tokyo Medical Society, where there were Prof. Dr. Ogata from Chiba, Dr. Tamiya

from the Government Institute of Infectious Diseases, and Dr. Hayashi from Nagoya. After some discussion Prof. Dr. Ogata, who has long held opposing views, proceeded to congratulate him on his success. The address of the author, Prof. Dr. Rinya Kawamura, is in care of the Pathology Section of the Niigata Imperial Medical College, Niigata City, Japan.

Trachoma

A welcome meeting was given to Dr. Y. Ito, professor of ophthalmology in the Chiba Imperial Medical College, at the Crystal Garden in Tokyo, in December. The professor, who had been to Europe to attend the Organization Committee of the International Antitrachoma League as the delegate of Japan, made a report, and wished the meeting to agree that the Japan Antitrachoma Association would cooperate as one of the parties in the future. It was unanimously decided to do so. Under the auspices of the departments of the interior, foreign affairs, and plantation, a graduate course on trachoma was given by Dr. Ishiwara, professor of ophthalmology in the Tokyo Imperial University, to the general practitioners and local health officers in those prefectures, from which they are sending a number of laborers to the plantations of South America and other places. Those who pass the course can be ophthalmologic examiners for these emigrants.

Influenza

An epidemic of influenza nearly as severe as the one that visited this country in 1920 assailed Tokyo and other places toward the end of last year, and over 70,000 were ill in Tokyo in the middle of February; 937 deaths were reported up to the beginning of last month, some 60 deaths a day at the highest. The mortality of infants was the highest, and next came that of old people. About the same period of the year the cases of typhus in Tokyo amounted to 549, the mortality of which was 30 per cent higher than usual.

Hygienic Care of Infants

The metropolitan police are going to publish a new regulation concerning theaters and motion picture houses. The new law will prohibit the parents from taking children younger than 2 years of age with them to the theaters and music halls. This is not so much to benefit the audience as out of regard for the youngsters' health. The Tokyo Hygienic Laboratory has newly established an infant consultation office, under the direction of Dr. Tominaga.

Medical Establishments for the Poor

A movement has been started for the purpose of lowering medical fees and the price of medicines by a medical association containing 350 practitioners. In the mountainous districts not so far from the capital there are about forty-four towns and villages without practitioners. The Tokyo prefectural authorities concerned are intending to despatch a visiting consultation party of two physicians, four nurses and a pharmaceutist. In Osaka a dispensary has been established by the social democrat party, and medicine is given to the patients at a price of 4 cents a day. The party is planning to establish a new hospital in the city, which will be opened under the name of the Proletariat Hospital; Dr. Iwasaburo Takano will be the chief. There are eighty beds for inpatients. The hospital fees for the members of the party are 80 sen a day, while the patients in general have to pay 1 yen. The price of medicine is 10 sen a day for all.

The Robert Koch Memorial Lecture

December 11 was the birthday of Robert Koch. The annual memorial lecture was held in honor of the great German scholar under the auspices of Baron Dr. Kitasato. The lecture was given by Dr. M. Koizumi, who had made a scientific excursion through southern Europe, especially Italy and Spain, for the purpose of inspecting the antimalaria works. The closing address was given by Dr. Miyajima of the Kitasato Institute.

Marriages

JAMES M. NORTHINGTON, Charlotte, N. C., to Miss Betty Clark of La Grange, Ga., April 11.

ROY H. MCDOWELL, Belmont, N. C., to Miss Katherine Bowers of Gastonia, March 30.

HAROLD L. SNOW, San Pedro, Calif., to Miss Audrey Ostlund of Provo, Utah, February 21.

HERBERT C. LIESER to Miss Mary Phillips, both of Vancouver, Wash., recently.

Deaths

George Martin Kober ⊕ emeritus dean and emeritus professor of hygiene, Georgetown University School of Medicine, Washington, D. C., died April 24, at his home in Washington, of heart disease. Dr. Kober was born in Germany in 1850 and came to the United States in 1866. While a hospital steward stationed at the Army Medical Museum in Washington, he studied medicine at Georgetown University School of Medicine and graduated in 1873. He was appointed an acting assistant surgeon in the army in 1874 and for many years served in the West, where he acquired an abiding interest in the Indians and developed a life interest in health and sanitation. He returned to Washington and in 1890 became professor of hygiene at his alma mater, and in 1901 its dean, serving in those capacities until 1928, when he was made emeritus dean, emeritus professor of hygiene, and a member of the board of regents of the university. His alma mater conferred on him the degrees of LL.D. in 1906 and Litt.D. in 1923. From 1902 to 1905, he was a member of the House of Delegates of the American Medical Association. Dr. Kober served as honorary secretary of the Section on Medical Geography and Demography of the International Medical Congress, Berlin, in 1890, and as chairman of the Sub-Section of Sociological Medicine, Pan-American Scientific Congress in 1916. At the Paris International Exposition in 1900, he received a gold medal for work on improved dwellings for the working class, and at the International Congress on Tuberculosis, Washington, 1908, a gold medal for his design of the Washington Tuberculosis Hospital. He was president of the Association of American Medical Colleges in 1906, was president of the National Association for the Study and Prevention of Tuberculosis in 1915, and from 1907 to 1916 was secretary of the Association of American Physicians. In 1898 he was president of the Medical Society of the District of Columbia; in 1906-1907 and again in 1918-1920 he was president of the Anthropological Society of Washington. Dr. Kober was the author of numerous articles, relating to public health and social betterment. He was co-author of books on "Industrial Health" and "Diseases of Occupational and Vocational Hygiene." He is said to have been the first to point out the agency of flies in the transmission of typhoid fever. Although not in practice for some years preceding his death, he had devoted himself and his means to the improvement of social and hygienic conditions in the District of Columbia, where he was for years a member of the Board of Charities.

Curtis Richard Day, Oklahoma City; Beaumont Hospital Medical College, St. Louis, 1891; member of the Oklahoma State Medical Association; member of the first state legislature; formerly dean and professor of pathology, serology and clinical microscopy, University of Oklahoma School of Medicine; served during the World War; aged 65; on the staff of St. Anthony's Hospital, where he died, March 22, of coronary thrombosis.

Daniel Cogdell Hutton ⊕ Major, M. C., U. S. Army, Phoenix, Ariz.; University of Maryland School of Medicine, Baltimore, 1916; served during the World War; entered the regular army as a captain in 1920 and was made a major in 1929; aged 37; died, March 23, of angina pectoris, arteriosclerosis and coronary occlusion.

William Henry Dodge, Hancock, Mich.; University of Michigan Medical School, Ann Arbor, 1889; member of the Michigan State Medical Society; health officer of Hancock; formerly mayor of Hancock; on the staff of St. Joseph's Hospital; aged 68; died, March 18, of cerebral thrombosis and chronic interstitial nephritis.

Brooke Dodson ⊕ Major, M. C., U. S. Army, Fort Benning, Ga.; University of Louisville (Ky.) School of Medicine, 1914; member of the Medical Association of the Isthmian Canal Zone;

served during the World War; entered the regular army in 1920; aged 43; died, Dec. 6, 1930, in the Station Hospital, of duodenal ulcer.

Edward Christian Wittwer ✠ Mountain Grove, Mo.; Kansas City Medical College, 1905; St. Louis University School of Medicine, St. Louis, 1908; past president of the Wright-Douglas County Medical Society; veteran of the Spanish-American and World wars; aged 57; died, February 12, of myocarditis.

Charles Delbert Gamble ✠ Lima, Ohio; Jefferson Medical College of Philadelphia, 1905; member of the American College of Surgeons; veteran of the Spanish-American and World wars; on the staff of the Lima Hospital Society; aged 52; died, March 18, of teratoma and hypostatic pneumonia.

Thomas Clement Hill ✠ Louisville, Ky.; University of Louisville School of Medicine, 1925; assistant in urology at his alma mater; on the staffs of the Children's, Louisville City and the Deaconess hospitals; aged 30; died, March 22, in St. Joseph's Infirmary, of pneumonia.

Isaac Edward Moore, Colorado Springs, Colo.; University of West Tennessee College of Medicine and Surgery, Memphis, 1915; served during the World War; aged 40; died, March 16, in the Fitzsimons Hospital, Denver, of chronic pulmonary tuberculosis.

Andrew Soderlind, Minneapolis; University of Minnesota College of Medicine and Surgery, Minneapolis, 1890; an affiliate fellow; on the staff of the Swedish Hospital; aged 69; died, March 22, of cerebral hemorrhage, hypertension and diabetes mellitus.

William Van Deveer Nichols, Oceanside, Calif.; University of Pennsylvania School of Medicine, Philadelphia, 1885; member of the California Medical Association; for many years member of the city council; aged 69; died, March 16, of heart disease.

Percy Henry Finch ✠ Gloversville, N. Y.; Albany Medical College, 1911; served during the World War; on the staff of the Nathan Littauer Hospital; aged 40; died suddenly, March 19, of septicemia, chronic osteomyelitis and chronic nephritis.

John S. Neal, Carthage, Texas; Memphis (Tenn.) Hospital Medical College, 1899; member of the school board; health officer of Panola County and Carthage; aged 53; died, February 17, of angina pectoris and coronary thrombosis.

Ernest A. Lincoln Dickinson, Trenton, N. J.; Jefferson Medical College of Philadelphia, 1890; served during the World War; aged 64; died, February 10, of fibroid phthisis, chronic myocarditis, arteriosclerosis and bronchopneumonia.

Edward William Wright, St. Petersburg, Fla.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1886; formerly on the staff of the Brooklyn Eye and Ear Hospital; aged 70; died, March 9, of carcinoma of the liver.

Frank Earl E. St. Clair ✠ Hampton, Iowa; Jefferson Medical College of Philadelphia, 1904; past president of the Franklin County Medical Society; on the staff of the Lutheran Hospital; aged 54; died, March 24, of cerebral hemorrhage.

Moreland Russell Irby, Richmond, Va.; Jefferson Medical College of Philadelphia, 1908; member of the Medical Society of Virginia; served during the World War; aged 54; died suddenly, March 19, of cerebral hemorrhage.

George Thomas Cushman, Boston; Harvard University Medical School, Boston, 1881; member of the Massachusetts Medical Society; aged 72; died, March 28, as the result of a cerebral hemorrhage, suffered a year ago.

David King Gordon, Denver; University of Colorado School of Medicine, Denver, 1927; on the staff of the Jewish Consumptives Relief Society Sanatorium; aged 31; died, March 25, of gangrene of the gallbladder.

Hugh Lorimer Marshall, Stronghurst, Ill.; Barnes Medical College, St. Louis, 1899; member of the Illinois State Medical Society; served during the World War; county coroner; aged 57; died, March 2.

Frederick Wallace Culler, New York; Columbia University College of Physicians and Surgeons, New York, 1896; aged 70; died, January 22, in Utica, N. Y., of arteriosclerosis and myocarditis.

Harry Price Honaker ✠ Bowling Green, Ky.; Kentucky University Medical Department, Louisville, 1906; on the staff of the City Hospital; aged 52; died suddenly, March 24, of heart disease.

James Wallace Rutherford, Franklin, Ala.; Medical College of Alabama, Mobile, 1893; member of the Medical Association of the State of Alabama; aged 63; died, April 14, of angina pectoris.

Clarence Nicholas McCumber ✠ Lewistown, Ill.; Rush Medical College, Chicago, 1905; served during the World War; aged 51; died, March 25, in the Methodist Hospital, Peoria, of pneumonia.

J. Ada St. John, Wichita, Kan.; University of Michigan Medical School, Ann Arbor, 1881; aged 83; died, March 16, as the result of a fractured hip, received in a fall a year ago.

Harry P. Campbell, Wheeling, W. Va.; Baltimore Medical College, 1902; member of the West Virginia State Medical Association; aged 52; died, March 21, of cerebral hemorrhage.

William James Moore, Asheboro, N. C.; College of Physicians and Surgeons, Baltimore, 1893; member of the Medical Society of the State of North Carolina; aged 65; died, April 3.

Samuel Heber Long, Apponaug, R. I.; Medical School of Maine, Portland, 1902; member of the Rhode Island Medical Society; aged 53; died, February 13, of heart disease.

Lou Murray Mitchell ✠ Pittsburgh; University of Maryland School of Medicine, Baltimore, 1906; aged 48; died, March 27, as the result of an automobile accident.

Emmet N. Miller, Huntington, W. Va.; Medical College of Ohio, Cincinnati, 1897; member of the West Virginia State Medical Association; aged 58; died, February 12.

Edward W. Fenity, Kane, Ill.; Chicago Medical College, 1885; member of the Illinois State Medical Society; aged 69; died, March 27, of heart disease and nephritis.

George Wharton Moody ✠ Shelbyville, Tenn.; University of Pennsylvania School of Medicine, Philadelphia, 1869; aged 83; died, March 24, of chronic myocarditis.

John Theodore Evans, Springfield, Mo.; American Medical College, St. Louis, 1898; aged 63; was found dead in his office, March 25, of heart disease.

David Frank Dreibelbis ✠ Lehighton, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1890; aged 64; died, February 17, of heart disease.

Raymond St. Elmo Hunter, Philadelphia; Hahnemann Medical College of Philadelphia, 1909; aged 51; died, March 23, of tuberculosis of the kidney.

Caroline Augusta Pope, Boston; New England Female Medical College, Boston, 1870; aged 85; died, March 28, of myocarditis and arteriosclerosis.

David C. Dome, Evansville, Ind. (licensed, Indiana, 1897); Civil War veteran; aged 96; died, March 21, in the Deaconess Hospital, of enterocolitis.

Ellen J. Wetlaufer, Cheyenne, Wyo.; Denver Homeopathic College, 1898; aged 85; died, February 17, as the result of an injury received in a fall.

William Griffon Blake, Tahlequah, Okla.; Missouri Medical College, St. Louis, 1886; Civil War veteran; aged 85; died, February 13, of senility.

Return Jonathan Meigs ✠ Lowell, Mass.; Harvard University Medical School, Boston, 1894; aged 60; died, April 6, of cerebral hemorrhage.

Emma J. Lawrence, Falls City, Neb.; Central Medical college of St. Joseph, Mo., 1905; aged 70; died, March 5, of pernicious anemia.

Edward A. Hoffman ✠ Rochester, N. Y.; College of Physicians and Surgeons, Baltimore, 1896; aged 64; died, in March, of heart disease.

Rodney B. Milliner, Annapolis, Md.; Leonard Medical School, Raleigh, N. C., 1908; aged 44; died recently, of cerebral hemorrhage.

Thomas Jerman Walker Richards, New Philadelphia, Ohio (licensed, Ohio, 1896); aged 79; died, March 25, of pneumonia.

John Melville Guise, Findlay, Ohio; Medical College of Ohio, Cincinnati, 1887; aged 76; died, March 20, of angina pectoris.

James F. Son, Ardmore, Okla.; American Medical College, St. Louis, 1891; aged 68; died, March 13, of cerebral hemorrhage.

Paul Thompson, Lapeer, Mich.; Detroit Homeopathic College, 1900; aged 54; died, March 19, of pulmonary tuberculosis.

Edward A. Million, St. Louis; Jefferson Medical College of Philadelphia, 1881; aged 74; died, March 6, of pneumonia.

Rodney A. Toms, Calera, Okla.; Baltimore Medical College, 1890; aged 65; died, January 14, of cerebral hemorrhage.

Frank Humphreys, Mount Victory, Ohio; Medical College of Ohio, Cincinnati, 1882; aged 74; died, March 30, of uremia.

William Norton Bullard ✠ Lenox, Mass.; Harvard University Medical School, Boston, 1880; aged 77; died, April 13.

Bureau of Investigation

THE MILO BAR BELL

A Big Muscle Boy Runs Afoul the Federal Trade Commission

Those who study the fantastic advertisements of the "big muscle boys," appearing in such magazines as *Physical Culture*, will remember the pictures of the superman, with the musculature of an ox, holding aloft a particular brand of dumbbells known as the "Milo Bar Bell." From the advertising, one gathers that by the use of this particular device, the puniest and weediest of individuals can develop into veritable Samsons. As a full-page *Physical Culture* advertisement put it: "By Using a Bar Bell You Can Become a Physical Super Man."

BEFORE

AFTER

JOHN SLOAN

COMPARE the two photos of this pupil, the one taken at the time of his enrollment and the other a short time after.

Mr. Sloan progressed so rapidly under our instructions using bar-bells that he actually increased his chest measurement 12 inches and put 5 inches on his biceps. What is most astonishing is his growth in height, which increased 8 inches.

Surely, this is sufficient testimony to verify the value of Milo methods. Mr. Sloan feels he cannot praise the Milo system too highly and the valuable advice and attention he received from our expert in charge.

JOHN SLOAN,
Springlake, New Jersey.

Photographic reproduction (greatly reduced) of a page from the advertising booklet of D. G. Redmond's Milo Bar Bell Company. It is supposed to show the remarkable development of one John Sloan due to the use of Milo Bar Bell. The picture of Sloan in the upper right corner was said to depict him *before* he used the Bell Bars; the larger picture was said to show Sloan *"a short time after"* he had used the device. The Government brought out the fact that the two pictures really represent Sloan at the ages, respectively, of *fourteen* and *eighteen!*

It appears that the Milo Bar Bell Company, which exploits this device, is a trade name used by one D. G. Redmond. Now comes the Federal Trade Commission and on February 10, 1931, issues an order to Redmond to cease and desist from:

"Representing by pictures, statements or otherwise, that physical development reasonably attributable to natural growth has been brought about by the use of respondent's bar bell or other appliance or course of instruction."

The Commission, of course, based its action originally on a complaint which was submitted to D. G. Redmond, who, in turn, answered the complaint. Later, hearings were had before a trial examiner and testimony was heard and evidence received both in support of, and in opposition to the Commission's charges. Finally, the Commission, on the basis of the record, issued its order to cease and desist.

One of the main points in the Commission's case against Redmond was the misuse of a "before and after" picture used in the exploitation of the Milo Bar Bell. One picture purported to show the muscular development and increase in size and height of one John Sloan of Spring Lake, N. J., and carried pictures of John Sloan—one taken at the time of Sloan's "enrollment" in the bellbar "course" and the other alleged to be a picture of Sloan "a short time after" such enrollment. We are reproducing in miniature the page from Redmond's advertising booklet containing the pictures in question and the statement regarding them. The statement read:

"Compare the two photos of this pupil, the one taken at the time of his enrollment, and the other *a short time after*. [Italics ours.—ED.]

"Mr. Sloan progressed so rapidly under our instructions, using bar bells, that he actually increased his chest measurement 12 inches and put 5 inches on his biceps. What is most astonishing is his growth in height, which increased 8 inches.

"Surely this is sufficient testimony to verify the value of Milo methods. Mr. Sloan feels he cannot praise the Milo system too highly and the valuable advice and attention he received from our expert in charge."

The Commission developed the fact that the picture of John Sloan "before enrollment" was taken when he was a youngster of fourteen. The other picture said to be of John Sloan "a short time after" enrollment, was actually taken four years later, when Sloan was eighteen!

Correspondence

KAHN TEST AND WASSERMANN

To the Editor:—The statement in your editorial headed "The Standard and the Presumptive Kahn Reactions" (THE JOURNAL, February 14) reading "The superiority of the Kahn test over different Wassermann technics as well as other precipitation tests is shown by an analysis of the results obtained at the competitive serologic conference of the League of Nations Health Committee held at Copenhagen in 1928" is quite misleading. An analysis of the results of the conference actually shows that the Kahn test is superior in sensitivity to the type of complement fixation test in general use in Europe and nothing more. Of the seven complement fixation tests used at the conference, six employed a preliminary fixation of not over one hour at 37 C.; the other (Jacobsthal) used both 37 C. and "cold" fixation for one hour. It has long been recognized by competent American serologists that such types of preliminary fixation are far less sensive and specific than long (eighteen hour) fixations at a temperature of about 8 C. This fact is so well known in this country that, except in laboratories where expediencies of time outweigh the value of adequate serologic tests, cold fixations have become the standard method employed in the complement fixation tests for syphilis. Cold fixation methods and those of Kahn shows practically equal superiority to the older type of test with short fixation at 37 C. There is one further interesting fact that should be brought to light about the results obtained at Copenhagen. When the results obtained by Boas and by Kahn, using an identical method on the same serums, are analyzed, it is found that there are twenty-four serums on which Boas had a negative and Kahn a weak positive reaction. Nine were reported negative by Boas and strongly positive by Kahn; thirteen negative by Kahn and weakly positive by Boas, and two negative by Kahn and strongly positive by Boas.

Of the relative disagreements, there were seventeen serums in which Boas had a weakly positive reaction and Kahn a strongly positive and twenty-nine in which Kahn had a weakly positive and Boas a strongly positive test. The total number of duplicate tests was 905. Complete disagreement between the same reaction as performed by the two investigators on the same serum occurred in forty-eight cases, or about 5 per cent; relative disagreement occurred in forty-six cases (5 per cent). The Kahn reaction performed simultaneously by two men gave, there-

fore, identical results 90 per cent of the time, a clinical check 95 per cent of the time and absolute disagreement 5 per cent of the time. These figures are practically identical with those found in the many reports on similar series in which the Kahn test has been simultaneously compared with any of the eighteen hour cold fixation tests. These reports all call attention to the fact that, in treated cases and long standing cases of latent syphilis, either of these tests may be positive but not necessarily both and that there is little if any superiority of the one over the other. It is only by the use of both tests that the maximum information is obtained. With these facts in mind can one honestly say that the Kahn test shows any superiority over an adequate complement fixation test?

It was doubtless with these facts in mind that the conference "recommended that in order to secure the most reliable information for the clinician, at least two *different* serodiagnostic methods should be used," and that except for Kahn and Boas the other conferees, "would for the present prefer that one of the methods should be a Bordet-Wassermann test." The use of a "standard"' and a "presumptive" Kahn test is a technical evasion of the suggestions of the conference. If an investigator were to run duplicate Widal tests, one with serum of higher agglutination titer than the other, would it be said that he was making two distinct tests for typhoid?

R. G. OWEN, M.D.,
H. E. COPE, M.D.,
Detroit.

[NOTE.—This letter was referred to Miss Elizabeth B. McDermott, who has published several papers on the Kahn test. Her reply follows:]

To the Editor:—The statement in the editorial "The superiority of the Kahn test over different Wassermann technics as well as other precipitation tests is shown by an analysis of the results obtained at the competitive serologic conference of the League of Nations Health Committee held at Copenhagen in 1928" cannot be "misleading" because it is true to fact, being based on actual figures in the official report of the Copenhagen conference. The opinions and data in the letter of the correspondent are of controversial character unrelated to the statement in the editorial. For the sake of clarity, however, these will be considered in detail:

1. The opinion in the letter that Wassermann tests carried out by the leading European serologists which made up the membership of the Copenhagen conference are inferior to those carried out in the United States is an assumption for which there is no experimental evidence. Only a competitive conference in which European and American Wassermann tests are employed can prove or disprove this assumption.

2. The opinion that prolonged cold fixation gives more reliable Wassermann results than short, warm (37 C.) fixation is another assumption not generally accepted. Indeed, many American and practically all European serologists do not employ prolonged cold fixation because that procedure is generally accepted as giving false positive Wassermann reactions.

3. The varying Kahn results obtained by Kahn and Boas at the Copenhagen conference becomes clear when one learns the facts. Boas planned to perform the original Kahn test published by Kahn in 1922, which required incubation. For that reason all the official charts at the Copenhagen conference have two columns: "Kahn I" under Boas and "Kahn II" under Kahn. But Boas was so impressed with the standard Kahn test after seeing a demonstration of it just prior to the conference that he decided to use this test instead. He admitted lack of familiarity with the test and his results did not enter into the proceedings of the conference. His results merely tended to indicate that even a novice with the Kahn test can obtain fairly reliable results. The extent to which constancy of results is obtained with the Kahn test in different laboratories is illustrated by the report published by Young and Lubin (*J. Michigan M. Soc.* **28**:386, 1929) wherein nine laboratories performed this test on the same specimens:

Serums were sent from the Michigan State Health Department Laboratories at Lansing to eight different laboratories in the state for examination with the Kahn test. Six of these laboratories as well as the Lansing laboratory used the Kahn test only. The other two used both the Kahn and the Wassermann test. Of the total of seven laboratories which employed the Kahn test only, five showed 100 per cent general agreement (absolute agreement, agreement and partial agreement). The other two showed 98.6 and 89 per cent agreement, respectively. The remaining two laboratories which also used the Wassermann test showed 94.7 and 97.9 per cent agreement, respectively. As a result of this comparative study, two of the laboratories arranged to learn the correct performance of the Kahn test.

4. Whether or not "one can honestly say that the Kahn test shows any superiority over an adequate complement fixation test" will undoubtedly remain contraversial for some time to come. Considering the extensive studies that have been in progress in the New York Health Department Laboratories at Albany in perfecting the Wassermann test, for example, one must consider that the Albany method is "adequate." Indeed, this method, according to published reports, is more sensitive than the Kahn test. According to Wadsworth, Maltaner and Stevens (*Am. Rev. Tuber.* **32**:545 [Nov.] 1930), however, the Albany Wassermann test lacks specificity. These workers report that this test gives 3.9 per cent false positive reactions in tuberculous cases in the absence of syphilis and 0.3 per cent false reactions in nontuberculous, nonsyphilitic cases. But the Kahn test gave no false positive reactions at the Copenhagen conference, which included specimens from patients with all types of pathologic conditions, in sixty-one of which there was tuberculosis. Assuming also that the Kolmer Wassermann test is an "adequate" method, the superiority of the Kahn test over this method is amply illustrated by a study carried out in Dr. Kolmer's laboratory by Dr. R. L. Kelly (*Arch. Dermat. & Syph.* **12**:720 [Nov.] 1925).

Kelly studied the Kahn and Kolmer-Wassermann test in 110 selected cases of syphilis. In five cases there was complete disagreement. Of this number, four cases of latent and neurosyphilis were positive with the Kahn test and negative with the Kolmer tests. One case with no history of syphilis and with clinical data which "revealed nothing of importance" was positive with the Kolmer and negative with the Kahn test. Of the remaining 105 cases, 5 were originally negative with the Kolmer test, becoming positive after the removal of the natural amboceptor from the patient's serum, and another case was negative with the Kolmer until after a month's antisyphilitic treatment, when it became positive. Thus, as many as ten cases of syphilis in this small group were originally negative with the Kolmer-Wassermann and positive with the Kahn test.

5. The statement in the letter that only Kahn and Boas took exception to the recommendation of certain members of the conference that one of the two methods employed in the serum diagnosis of syphilis be a Wassermann test is incorrect, since Dr. Madsen, the chairman of the conference, and Professor Forssman of the University of Lund also took exception to its use (League of Nations' report of Copenhagen Conference, footnote, page 12).

6. Whether the standard and the presumptive Kahn tests can be classed as two methods or as only one method is a rather unusual academic question, since the presumptive test is definitely more sensitive than the other. To state, furthermore, that the use of these two methods "is a technical evasion of the suggestions of the conference" is perhaps bold. Those who are familiar with the proceedings of the conference know that the recommendation of the use of two methods was originally made in order to "appease" Dr. Kahn and render unnecessary his writing a minority report of the conference. On one side were lined up leading European serologists with their tradition of the Wassermann test and, on the other, Dr. Kahn with superior results given by his method. As a compromise, at the suggestion of Dr. Madsen, two methods were officially recommended by the conference without mention of the Wassermann test so that Dr. Kahn could use the standard and presumptive Kahn tests and be within the recommendation, while those members who insisted on the use of a Wassermann test as one of the methods

were given an opportunity to express their opinion individually in the form of a footnote to the official recommendation.

As to the practical application of the use of two methods, one worker may prefer two methods of similar sensitivity while another might find greater value in the use of two methods of unequal sensitivity, as a conservative method in which the positive reaction is of greater significance than a negative reaction, and a highly sensitive method in which the negative reaction is of greater significance than a positive reaction.

Perhaps we might turn to a distinguished pathologist for an opinion on the standard and the presumptive Kahn tests. Dr. Aldred Scott Warthin of the University of Michigan has been a student of the pathology of syphilis for more than thirty-five years. Up to July, 1928, Dr. Warthin has had an opportunity of comparing his pathologic observations with the Wassermann test employed in the University Hospital. This test was based on eighteen hours' cold fixation and presumably, according to the correspondent, was an "adequate" method. In July, 1928, this Wassermann test was replaced by the Kahn test. The parallelism between pathologic and serologic results is summarized by Dr. Warthin in the reprint of the Eleventh Pasteur Lecture (Nov. 21, 1930) entitled "The Problem of Latent Syphilis," delivered before "The Institute of Medicine of Chicago," page 5, as follows:

> The correlation between the tissue lesions and the serological reactions (in syphilis) offers very definite problems. There was only about a 50 per cent agreement between the Wassermann reaction and the histologic findings in our cases. During the last two years the Kahn reaction has been used in our hospital with a much higher per cent of agreement. In the case o fthe presumptive Kahn, with a more sensitive antigen, the agreement has reached about a 97 per cent degree. In several cases with 4 plus presumptive Kahn, the clinicians have wholly denied the possibility of the patient having syphilis, when on autopsy a very active syphilitic aortitis was found. In our experience, then, the Kahn test shows a much higher degree of accuracy when checked with the microscopic findings than does the Wassermann. We have had no false positives, and but few negatives.

"THE COFFEY-HUMBER PATENT"

To the Editor:—I have read with interest Dr. Rehfisch's letter relative to the Coffey-Humber patent (THE JOURNAL, March 7, p. 794). After Dr. Rehfisch had complimented the Patent Office on the "masterly report on Coffey's preposterous claims, which were annihilated one by one by a patent examiner who dealt with them in a truly scientific fashion," he might have been sufficiently generous to give the examiner who wrote such a "masterly report" the credit for properly considering the application before he would grant the patent.

An investigation shows that Dr. Rehfisch was entirely in error in his belief that there was such great speed that the case was resubmitted one day and granted the next without due deliberation on the part of the examiner. Patent Office Rule 13 permits an applicant or his attorney to interview an examiner after rejection and to go over the entire case orally as with a judge. The record shows that the attorney, with his clients, had *several* interviews with the examiner, on June 24, 26 and 28, 1930, when reference was made to eleven voluminous affidavits and certified records of "cases," the attorney arguing from these affidavits and records that the patent should be granted. The affidavits were from Drs. Starr (eight cases), Steel (two cases), MacNevin (five cases), Hill (one case), Hattery (six cases) and Hall (two cases), all of Los Angeles; Drs. Dalton (five cases) of St. Helen, Ore., Young of the University of Oregon, and Renfrew, chief of staff, Long Beach Community Hospital, 1925-1928.

As a result of the several interviews and thorough discussion of the affidavits and "cases" the examiner was convinced that the patent should be granted and agreed to "allow" it on the affidavits and "cases" being filed for record. This was done, July 1, and as it was a simple matter to "allow" the application after it had been finally decided to do so, the "allowance" was dated the following day.

Also, Dr. Rehfisch's letter would create the impression that the letter from Secretary Wilbur was instrumental in having this patent granted. This is not in accord with the facts. Secretary Wilbur's letter, as provided by statute, merely requested expeditious consideration of the application. It was dated April 5 and, in addition to mentioning the interest of his department in the welfare of the Indians and Eskimos, called attention to Freedmen's Hospital and St. Elizabeth's Hospital, which are under the supervision of the Interior Department. Following the receipt of the letter from Secretary Wilbur, April 6, the examiner on April 29 "refused to grant the patent in a masterly report. . . ." Neither the examiner nor the Patent Office received any further communication, either formal or informal, direct or indirect, from Secretary Wilbur prior to the allowance of the patent, July 2.

From the foregoing you will see that the application was very carefully considered and Secretary Wilbur was in no sense responsible for the allowance of the patent.

THOMAS E. ROBERTSON, Washington, D. C.
Commissioner of Patents.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EFFECTS OF CEMENT DUST

To the Editor:—Have you any definite knowledge of the effects of cement dust on the health of a community? Of course, I know that the workers in a cement plant are prone to bronchial and pulmonary trouble, but I should like to know whether you have any definite proof that it has been injurious to the health of people living within a radius of 3 or 4 miles of a plant. A plant built here two years ago is doing nothing to take care of the dust, though it has been estimated that 40 tons fall on the countryside every twenty-four hours. It is damaging everything and a committee has been formed, and an attempt is being made to have the plant put in the Cotrell system.

WINIFRED S. LEIGHTON, Rockland, Maine.

ANSWER.—In 1928 the United States Public Health Service published the results of an extended investigation on the health of workers in a Portland cement plant (Public Health Bulletin 176). In the conduct of this work, house to house canvasses were made to determine rates of illness among the population of the general community for comparison with the incidence of disease among workers in the plant under study. The published comparisons almost exclusively have been made between workers in the cement factory and other males of similar ages in the community. It is believable, however, that the federal service mentioned has on hand, and may make available, records showing the incidence of disease states among the entire population. Recourse should be made to the publication in full, which is undoubtedly obtainable from the source mentioned.

Studies of this sort commonly do not lead to any proof that residents located in the community in which dust-producing factories are situated are sufficiently affected by these dusts to establish a relation of cause and result between factory dusts on the one hand and community ailments on the other. Notwithstanding the absence of precise proof, it is generally true that dusts, fumes, gases and odors emanating from factories are inimical to the best interests of community life in terms of economics and health. Most good is accomplished when all such waste substances are controlled on the premises producing the objectionable substances.

ROUTINE USE OF FLAXSEED INTERNALLY

To the Editor:—What should be the effect of the taking, for an indefinite period, of from four to six tablespoonfuls a day of raw whole flaxseed? Would this be likely to be irritating to a person having a normal gastro-intestinal tract? Also, would this be likely to be irritating to a person having a mild tuberculosis of the bowel?

H. V. SCARBOROUGH, M.D., Oaklandon, Ind.

ANSWER.—Flaxseed is not likely to be irritating, excepting in ulcerated conditions of stomach or bowels, in which cases it would, no doubt, be contraindicated.

STOMACH ACIDITY IN PERNICIOUS ANEMIA

To the Editor:—I should like to know whether there is any record of pernicious anemia with a normal stomach acidity. I have a patient who appears to have pernicious anemia but who presents normal conditions in the stomach. She is improving under liver treatment. All of the textbooks give achylia as one of the chief abnormal conditions.

WILLIAM J. MATOUSEK, M.D., Gregory, S. D.

ANSWER.—Although pernicious anemia is almost always associated with gastric anacidity, cases with normal acidity have been reported. Such cases are mentioned in the papers listed herewith, which also give references to earlier literature. Some of the cases that have been reported to present the blood picture of pernicious anemia and normal gastric acidity have been associated with obvious disturbances of the lower gastro-intestinal tract. It is not necessary, therefore, to exclude the diagnosis of pernicious anemia because of the finding of free hydrochloric acid in the stomach contents. The presence of free acid, however, makes the diagnosis of pernicious anemia unlikely, so that under such circumstances other types of anemia should be carefully ruled out before establishing that diagnosis. It should be recalled that liver, kidney, stomach or a potent substitute can be beneficial in certain other conditions than addisonian pernicious anemia.

The following articles may prove helpful:

Grinker, R. R.: Pernicious Anemia, Achylia Gastrica and Combined Cord Degeneration and Their Relationship, *Arch. Int. Med.* **38:** 292 (Sept.) 1926.

Munford, S. A.: Atypical Anemias, *Clifton M. Bull.* **11:** 139, 1925.

Little, W. D.; Zerfas, L. G., and Trusler, H. M.: Chronic Obstruction of the Small Bowel, THE JOURNAL, Oct. 26, 1929, p. 1290.

Richardson, Wyman; and Klumpp, T. G.: Sprue: Report of a Case Treated with the Authorized Liver Extract Effective in Pernicious Anemia, *New England J. Med.* **199:** 215 (Aug. 2) 1928.

Castle, W. B.; Townsend, W. S., and Heath, C. W.: Observations on the Etiologic Relationship of Achylia Gastrica to Pernicious Anemia: III. The Nature of the Reaction Between Normal Human Gastric Juice and Beef Muscle Leading to Clinical Improvement and Increased Blood Formation Similar to the Effect of Liver Feeding, *Am. J. M. Sc.* **180:** 305 (Sept.) 1930.

Davidson, Stanley: Pernicious Anemia with Free Hydrochloric Acid in the Gastric Contents, *Brit. M. J.* **2:** 1123 (Dec. 22) 1928.

TREATMENT OF SYPHILIS

To the Editor:—About a year ago a patient presented himself for treatment with a hard chancre of two months' duration and a macular rash of one week's duration. The Wassermann test was positive. Neoarsphenamine was given weekly, beginning with 0.3 Gm. and increasing to 0.6 Gm., which was then continued for sixteen doses. After the eighth treatment mercuric succinimide, one-sixth grain (11 mg.), was also given weekly. After this course, a course of bismuth sodium tartrate twice weekly for six weeks was given. Another course of neoarsphenamine was started. At the second injection a mild reaction took place. At the third injection (dose reduced to 0.45 Gm.) a severe reaction took place. There was no apparent flaw in the technic, and the manufacturer said that the drug was perfect. Because of this neoarsphenamine was discontinued and the treatment the rest of the year was with soluble bismuth and soluble mercury, given twice weekly. At six months, after a three weeks' rest, the Wassermann test was negative. After a year the patient developed a macular rash all over the body and thighs. No other lesions were present. This left after three weeks, to be replaced, three months later, by isolated circinate lesions over the body and forearms. These were discrete, rose colored, 30 mm. in diameter, with pale centers containing a central papule. It did not respond to mercury or bismuth therapy but cleared up on three sulpharsphenamine injections intramuscularly. This, however, caused some itching and general malaise. Is it possible that this was a relapse of secondary lesions? What further treatment would you advise? What is the most painless mercury injection? Please omit name.

M.D., Chicago.

ANSWER.—The serum should have been tested oftener during the early treatment, so that the time at which the tests became negative could have been noted. After the negative Wassermann reaction was obtained, treatment should have been continued with gradually lengthening rest periods. A diagnosis of the macular rash is, of course, impossible; but mention of the serologic reaction at the time would have been helpful. The rash may have been a recurrent roseola and the second one a second recurrence becoming papular, or they both may have been toxic eruptions, clearing spontaneously, the second one happening to clear up soon after the administration of sulpharsphenamine.

The serum and spinal fluid should be tested. If either is positive, the treatment should be as energetic as the patient's sensitization permits. One injection of sulpharsphenamine, silver arsphenamine or arsphenamine, if the patient is relatively insensitive to them, should be followed by a course of bismuth, a short rest, not over two weeks, a week of iodide medication, and then another (or two or three) injections of some arsphenamine, followed by a course of mercury. Intravenous injections of arsphenamine, if more than one, should be given as closely as is safe. Or the Schamberg method, small doses of arsphenamine each week along with the heavy metal treatment, may be followed, with great caution of course, in this case. Energetic treatment should be kept up until the signs of recurrence have disappeared. Keeping up the patient's resistance is of the first importance. If the spinal fluid and serum give negative tests, it is likely that the skin manifestations were not syphilids; but more treatment should nevertheless be given. The plan outlined may be followed, with longer rest intervals. After several years of gradually lessening treatment, the patient should be watched clinically and by tests of the spinal fluid and blood serum until fifteen years after the onset.

Intramuscular injections of mercuric succinimide and cyanide are relatively painless. They should be given from three to five times a week to be effective.

SYPHILIS IN PREGNANCY

To the Editor:—I first saw a woman, aged 25, when she was in labor at eight months. She delivered a living child normally. The child was not well nourished. The skin was soft. There were no sores or other evidences of syphilis. The baby lived six hours. The woman gave a history of having had four previous pregnancies. All ended at from six and a half to seven and a half months, except one at two and a half months. One other baby lived four hours. She has never had high blood pressure or abnormal urinary conditions. The day following delivery, I drew blood for a Wassermann test. The laboratory reported it strongly positive. I gave no treatment but took a second Wassermann test. It was reported negative. Three more specimens were reported negative. I gave 0.15 Gm. of neoarsphenamine intravenously and at the end of a week took another Wassermann test. It was reported positive 2+. I gave three more intravenous doses of neoarsphenamine, 0.45 Gm., at intervals of one week. Another Wassermann was taken and reported negative. Should I continue treatment or change my diagnosis of a syphilitic infection? This woman has no pelvic pathologic changes. One pelvic operation three years ago failed to alter the premature deliveries. Please omit name.

M.D., North Dakota.

ANSWER.—It is unfortunate that an autopsy was not performed on one or more of the children. If the babies were syphilitic, roentgenograms of the long bones might have shown the characteristic changes in these bones. If the Wassermann test now remains persistently negative it is not necessary to give any more antisyphilitic treatment at present. Should the patient again desire to become pregnant, a Wassermann test should be made before she conceives. If it is positive, intensive antisyphilitic treatment should be given. When the patient conceives, the intensive intravenous therapy should be continued throughout her pregnancy because this is essential for the birth of a healthy child. If the Wassermann reaction does not become positive until after the patient conceives, treatment must be given throughout the gestation just the same. Even if the Wassermann test remains negative during the patient's next pregnancy, it may be advisable to give intravenous injections of neoarsphenamine in the hope of obtaining a living and healthy child.

DENTAL INDICATIONS IN BABY GIRL'S BROKEN TOOTH

To the Editor:—I have a daughter 19 months old. She fell on a concrete walk and broke off one of her front upper teeth. The part of tooth remaining is slightly raised above the surface of the gum. The break was somewhat comminuted and a small spicule, which extended below the surface of the gum on one side, was pulled out. Our dentist seems to be in somewhat of a quandary as to what to do. He talks of pulling out the root and also speaks of the root preserving the space for the future permanent tooth. He appears to fear that infection might develop and prevent eruption of the permanent tooth at the site of the broken tooth. Would infection of the root prevent eruption of a permanent tooth? Would extraction of the root be harmful and why? Kindly advise proper procedure.

MARTIN L. BRAKEBILL, M.D., Peabody, Kan.

ANSWER.—In consideration of a patient 19 months of age who has broken a front tooth off approximately even with the gum, one should plan as best he can to meet developmental conditions that will arise during the next six or eight years. The space occupied by the broken tooth should be maintained in order that there will be room enough for the permanent tooth when it erupts. If this is not done, the adjacent teeth approximate each other and proper growth of the maxilla is retarded. As the pulp of the baby tooth has been destroyed and as its root is probably not fully formed, it cannot be satisfactorily filled; consequently, it should be extracted, especially as in this case the broken root is partly beneath the gum.

A satisfactory procedure would be to construct a bridge that will restore the missing tooth. A metal cast of the teeth can be made, and on this pure gold crowns can be made without any preparation of the teeth, as is necessary for the adult, thereby

avoiding annoyance and pain to the little patient. These gold crowns should not extend up under the gum, as a foreign body beneath the gum is always an irritant. Between these crowns a porcelain tooth can be soldered and the little bridge cemented in place.

This probably will not meet the approval of some who object to the gold in front of the patient's mouth, but it will serve the purpose of restoration of the lost member, retain the space for the permanent tooth, avoid possible infection of the broken root, and allow the physiologic processes to continue in a normal manner. It seems that these benefits more than balance the unsightliness of the gold and can be done without pain or inconvenience to the little patient.

Infection, unless widespread and virulent, destroying the pulp of the permanent tooth, would not prevent the eruption of the later dentition. The root itself would maintain the space for a time but would probably decay and be a source of trouble. Its extraction would do no harm if its space was maintained in some such manner as suggested.

RATIO OF WEIGHT OF MOTHER AND FETUS

To the Editor:—What is the ratio in the weight of the fetus and mother at full term? If the mother weighs 137 pounds when she goes into labor, how much should the baby weigh when born? Please use initials only.

M.D., Texas.

ANSWER.—There is no fixed ratio for the weight of the fetus and its mother at full term or at any other time of gestation. The length of a new-born baby is much more constant than is its weight. Some full term infants weigh less than some premature babies. The average weight of a baby at term is between 7 and 7½ pounds (3,170 to 3,400 Gm.) and this usually holds true for wide ranges in the weight of the mother. However, women with justominor pelves frequently give birth to small babies, whereas tall and fat women usually have large babies. Some babies are smaller than this average because of a general illness of the mother. If the placenta has a great deal of infarction, as in the presence of chronic nephritis, the child will be small. Generally speaking, babies increase somewhat in weight in successive pregnancies of a mother. Race has some bearing on this question, white babies being heavier than those of Negro women.

PROTECTION AGAINST DIPHTHERIA

To the Editor:—I have been teaching against the administration of an immunizing dose of diphtheria antitoxin to diphtheria contacts (except in unusual and selected cases), preferring close supervision and observation rather than needlessly sensitizing the patient to horse serum when the immunity conferred is only temporary. Am I wrong? The local health officer administers antitoxin to contacts, especially if they have positive nose or throat cultures, and then allows them to mingle with the public, seemingly thinking that this procedure renders them harmless as well as protecting them. Please omit name and address.

M.D., Michigan.

ANSWER.—The protective effect of an immunizing dose of diphtheria antitoxin lasts only for three weeks or so and should be given only in exceptional cases in order to protect the person himself. There would be no point in administering a protective dose of antitoxin to persons who do not react positively to the Schick test. Whenever practicable, persons giving a positive Schick test should be immunized actively against diphtheria by toxin-antitoxin or anatoxin.

TREATMENT OF GONORRHEAL URETHRITIS BY ANTISEPTICS IN GELATIN

To the Editor:—The treatment of gonorrheal urethritis by the use of antiseptics in gelatin as described by Herrold and Culver in THE JOURNAL, Feb. 12, 1927, page 439, has seemed to me a definite improvement on older methods. I have followed their technic in a number of cases that have come to me. I feel that this method of treatment has real merit and that their claims for it are justified and indeed conservative. During the four years since their article appeared, I have found no comment or mention of the use of gelatin as part of the treatment of gonorrhea in any textbook or magazine discussion of the subject. Please tell me whether or not this treatment is being used by many other urologists than these two.

JOHN D. FOWLER, M.D., Rochester, N. Y.

ANSWER.—The authors state that they have continued the use of antiseptics in gelatin during the last four years with as good results as previously reported. The strength of the drugs, however, has been reduced to one-half that of their former amount. The same careful selection of cases has been followed. Jacobsen has commented favorably on the use of acriflavine hydrochloride in gelatin for the treatment of gonorrhea in the male, and Burnet has reported success with mercurochrome-220 soluble in gelatin for the treatment of gonorrheal cervicovaginitis in young girl children. Dr. Herrold writes: "We have had personal communications from several urologists who have obtained satisfactory results. Our statement that gels or gelatins combined with drugs seem better than aqueous solutions would seem substantiated by the large variety of antiseptic solutions in gels and oils that have been placed on the market during the last four years."

STIPPLED CELLS IN LEAD POISONING

To the Editor:—In regard to the blood smears in lead poisoning, is there any special technic whereby I can count the number of red cells having basophilic stippling? This is of prognostic value. In the blood counting chamber with Hayem's solution, it is easy to count the red cells but difficult to see the stippling. With Wright's stain it is easy to see stippling but difficult to count the red cells. I would like to be able to express, as a formula, the ratio between the number of stippled cells and total red cells. Please omit name.

M.D., New York.

ANSWER.—Better results will be obtained by means of the stained smear than by using the counting chamber in the estimation of the ratio of stippled red cells in lead poisoning. Todd and Sanford, in the sixth edition of their "Clinical Diagnosis by Laboratory Methods," published by W. B. Saunders Company, West Washington Square, Philadelphia, in 1927, recommend the use of the polychrome methylene blue-eosin stains to bring out the basophilic granulation in the red cells. Cecil, in the second edition of his "Textbook of Medicine," published by the same company in 1930, says that these are best demonstrated by Una's alkaline methylene blue stain. While stippling is one of the reliable criteria for establishing the diagnosis of lead absorption, stippled cells in the blood are not absolutely pathognomonic of lead poisoning; a few may be found in cases of pernicious anemia, leukemia and sometimes even in normal blood. However, such large numbers as 100 per million red cells are said not to appear in adults in any disease except lead intoxication.

SPRAY-BORNE DISEASES

To the Editor:—In the December, 1930, issue of the *American Journal of Public Health*, in an article by E. G. Williams entitled "Evolving a Health Department," there occurs on page 1295 a statement of classification of communicable diseases. Therein is stated as non-spray-borne scarlet fever, diphtheria, mumps and meningitis. I shall appreciate your opinion as to the correctness of this statement and the basis for such a classification.

GRACE M. KAHRS, M.D., New York.

ANSWER.—As the specific causative agents of scarlet fever, diphtheria and epidemic meningitis are known to be present regularly in the throat during the acute attacks as well as in carriers, it is obvious that these diseases may be communicated to susceptible persons in the spray made by mouth and nose secretions. This statement would appear to apply also to mumps, the cause of which, although not yet definitely established, must reach the mouth from the parotid gland. It would be exceedingly difficult to explain in any other way the high degree of contagiousness of mumps on the basis of present knowledge.

REINSCH TEST FOR ARSENIC

To the Editor:—In a recent fatal case of arsenical intoxication, the Reinsch test of urine was persistently negative; the form of arsenical used is unknown. The question is, Will some forms of arsenicals fail to react or some chemicals be used that by oxidation or otherwise prevent detection? Please do not publish name.

M.D., Illinois.

ANSWER.—The Reinsch test will not yield satisfactory results if oxidizing agents, such as nitric acid or potassium chlorate, are present. These prevent the deposition of arsenic on the copper strip. For successful results, it is also necessary that the arsenic in the urine be converted to the inorganic form.

Some types of organic arsenicals, such as tryparsamide, do not yield a positive Reinsch test unless the organic molecule has been broken up by chemical agents.

PARALYSIS OF SERRATUS MAGNUS

To the Editor:—Your answer in THE JOURNAL, Februrary 21, relative to the nonsurgical treatment of paralysis of the serratus magnus muscle does not specify what is probably the most important measure in physical therapy; namely, the use of the direct current. Unless the reaction of degeneration is complete and the disability of long standing, the integrity of the muscle should be maintained by exercise with appropriate applications of this current. This is a much neglected procedure in nearly all cases in which there is partial reaction of degeneration. Maintaining the muscle in good condition until there is time for nerve repair will make the prognosis much more favorable. Two cases are inadequate for statistical deductions, but I can report two recoveries following the treatment suggested.

WILLIAM T. JOHNSON, M.D., Philadelphia.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Philadelphia, June 8. Denver, July 23. Sec., Dr. William H. Wilder, 122 S. Michigan Ave, Chicago.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Philadelphia, June 6. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh.

ARKANSAS: Little Rock, May 12. *Homeopathic.* Sec., Dr. Allison A. Pringle, Eureka Springs. *Regular.* Little Rock, May 12-13. Sec., Dr. S. J. Allbright, Searcy. *Eclectic.* Little Rock, May 12. Sec., Dr. Claude E. Laws, 803½ Garrison Ave., Forth Smith.

CONNECTICUT: New Haven, June 6. *Basic Science.* Address, State Board of Healing Arts, Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 9-11. Sec., Dr. Harold Springer, 1013 Washington, St., Wilmington.

FLORIDA: Jacksonville, June 15-16. Sec., Dr. Wm. M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 10-12. Sec., Dr. B. T. Wise, Americus.

IOWA: Iowa City, June 2-4. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Topeka, June 16. Sec., Dr. C. H. Ewing, Larned.

KENTUCKY: Louisville, June 9-11. Sec., Dr. A. T. McCormack, 532 West Main St., Louisville.

MARYLAND: Baltimore, June 16-19. *Regular.* Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. *Homeopathic.* Baltimore, June 16-17. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: Ann Arbor and Detroit, June 15-17. Sec., Dr. F. C. Warnshuis, 1010 Maccabee Bldg., Detroit.

MISSOURI: St. Louis, June 10-12. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.

NEW JERSEY: Trenton, June 16-17. Sec., Dr. James J. McGuire, 28 West State St., Trenton.

NORTH CAROLINA: Raleigh, June 15. Sec., Dr. John W. MacConnell, Davidson.

OHIO: Columbus, June 2-5. Sec., Dr. H. M. Platter, 85 East Gay St., Columbus.

OKLAHOMA: Oklahoma City, June 11-12. Sec., Dr. J. M. Byrum, Shawnee.

VERMONT: Burlington, June 17-19. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 16-19. Sec., Dr. J. W. Preston, 720 Shenandoah Life Bldg., Roanoke.

WISCONSIN: Milwaukee, June 6. *Basic Science.* Sec., Prof. R. N. Bauer, 3414 W. Wisconsin Ave., Milwaukee.

WYOMING: Cheyenne, June 1. Sec., Dr. W. H. Hassed, Capitol Bldg., Cheyenne.

North Dakota January Examination

Dr. G. M. Williamson, secretary, North Dakota State Board of Medical Examiners, reports the written and oral examination held at Grand Forks, Jan. 6-9, 1931. The examination covered 13 subjects and included 100 questions. An average of 75 per cent was required to pass. Four candidates were examined, all of whom passed. Two candidates were licensed by reciprocity and one by the endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Minnesota Medical School		(1930)	*
Jefferson Medical College of Philadelphia		(1922)	77.5
University of Manitoba Faculty of Med.		(1928)	75.4, (1930) 78.9

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
State University of Iowa College of Medicine		(1925)	Iowa
University of Copenhagen Faculty of Medicine		(1924)†	Michigan

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement of
Northwestern University Medical School		(1930)	N. B. M. Ex.

* No grade reported.

† Verification of graduation in process.

Pennsylvania January Examination

Mr. Charles D. Koch, secretary, Pennsylvania State Board of Medical Education and Licensure of the Department of Public Instruction, reports the written and practical examination held at Philadelphia, Jan. 6-10, 1931. Forty-five candidates were examined, all of whom passed. Six candidates were licensed by reciprocity and three by the endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Number Passed
Georgetown University School of Medicine		(1929)	1
Howard University School of Medicine		(1929)	1
Loyola University School of Medicine		(1930)	1
University of Illinois College of Medicine		(1902)	1
Univ. of Maryland Sch. of Med. and Coll. of P. & S.		(1927)	1
Harvard University Medical School		(1928)	1
University of Michigan Medical School		(1929)	1
University of Minnesota Medical School		(1929)	1
Syracuse University College of Medicine		(1929, 2)	2
University of Buffalo School of Medicine		(1913), (1929)	2
Hahnemann Medical College and Hosp. of Philadelphia		(1929)	1
Jefferson Medical College of Philadelphia		(1928, 2), (1929, 3)	5
Temple University School of Medicine		(1929, 2)	2
Univ. of Penn. School of Med.		(1926), (1928, 4), (1929, 6)	11
University of Pittsburgh School of Medicine		(1929, 2)	2
Woman's Medical College of Pennsylvania		(1928), (1929)	2
Medical College of the State of South Carolina		(1929)	1
Meharry Medical College		(1917)	1
Vanderbilt University School of Medicine		(1912)	1
University of Virginia Department of Medicine		(1929)	1
University of Western Ontario Medical School		(1915)	1
Laval University Faculty of Medicine		(1929)	1
McGill University Faculty of Medicine		(1918), (1926)	2
University of Naples Faculty of Medicine		(1926)	1
University of Edinburgh Faculty of Medicine		(1903)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Denver and Gross College of Medicine		(1905)	Mass.
Georgetown University School of Medicine		(1929)	New Jersey
State University of Iowa College of Medicine		(1925)	Iowa
Harvard University Medical School		(1921)	Virginia
Jefferson Medical College of Philadelphia		(1914)	N. Carolina
University of Tennessee College of Medicine		(1928)	W. Virginia

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement of
University of Pennsylvania School of Med.		(1928, 2), (1929)	N. B. M. Ex.

Book Notices

THE CLINICAL INTERPRETATION OF BLOOD EXAMINATIONS. By Robert A. Kilduffe, A.B., A.M., M.D., Director, Laboratories, Atlantic City Hospital, Atlantic City, N. J. Cloth. Price, $6.50. Pp. 629, with 60 illustrations. Philadelphia: Lea & Febiger, 1931.

This is an invaluable contribution to the physician who desires to have a comprehensive understanding of laboratory diagnosis. It represents a thorough review of current medical literature with a well organized presentation of the more recent studies on which the laboratory tests are based. The material is presented in a clear, concise and conservative manner and yet is inclusive enough in its scope of subjects to meet even the most specialized interest in blood. Besides the completeness with which the author has elucidated the various methods used in the examination of the blood he has accurately indicated their reliability, specificity and significance in clinical application.

The first chapter deals with the physical properties of the blood in health and the alterations that occur as a result of disease. This part of the book is a distinct contribution to the physician, as the author has adapted for clinical use facts which have been heretofore considered of academic interest only. He has further indicated their specific clinical application. The second chapter concisely summarizes blood formation and destruction. The author has wisely avoided a controversial discussion of the various theories on this subject. At the present state of their development they tend to confuse the clinician. Only such discussion is presented as is necessary to correlate with a later chapter on clinical interpretations of blood examinations.

The chapters on cytologic blood examinations and clinical study of cellular elements are excellent. The author has prepared in some detail a discussion of hemoglobin estimation. The various methods are discussed and the clinical value of those in common use are summarized. Abnormal hemoglobin compounds are briefly considered and their significance indicated. The discussion on erythrocytes is most complete and is climaxed with an exhaustive account of blood grouping. The information contained in these pages is of monographic scope and contains an excellent summary of some of the current studies. The discussion on clinical studies of erythrocytes, leukocytes and blood platelets is well covered and contains the recent studies on these subjects. Other features of the book are chapters on the parasitology and serology of the blood. The discussion of the serologic studies in cancer, tuberculosis and syphilis is thorough and carefully evaluates every contribution to the subject.

The section devoted to symptomatic blood pictures in disease contains a concise statement as to the characteristic response that may be found associated with a specific disease. The author cautions the reader that with the exception of myelogenous leukemia there are no pathognomonic blood pictures. The discussion is offered to present the response that may suggest the possibility of a given condition and is not to be used for abso-

lute diagnostics. In the discussion of hemophilia there is an obvious error in the text which should be corrected. It is stated that "the characteristic finding in this disease is increased bleeding-time while the coagulation-time may be normal." While coagulation time may be normal when the hemophiliac is not in a bleeding phase, prolonged coagulation time is customary with this disorder. Bleeding time is prolonged in certain phases of hemophilia but is usually found to be normal.

The last chapter deals with chemical examinations of the blood and is particularly adapted for the physician who desires to perfect himself in correlating laboratory observations with his clinical examination. There are many valuable tables and references on the subjects covered.

The book is recommended to physicians who wish to add to their diagnostic armamentarium and to those interested in understanding some of the mechanisms by which the body reacts to disease.

LA SACRO-COXALGIE ET SON TRAITEMENT. Par Pierre Ingelrans, chef de clinique de chirurgie infantile à la Faculté de médecine de Lille. Préface de René le Fort. Paper. Price, 30 francs. Pp. 140, with illustrations. Paris: Masson & Cie, 1930.

This is a monograph on the subject of sacro-iliac tuberculosis. The author discusses the literature, etiology, pathology, diagnosis, prognosis, the roentgen examination and treatment. He divides the treatment into nonoperative and operative. Under nonoperative is included immobilization combined with horizontal and vertical extension. He discusses operative treatment under osteosynthesis and gives the operative technic for extra-articular arthrodesis. He gives descriptions of various methods of resection and states the indications for operations and the contraindications. He gives his results in thirty-eight cases. The roentgenograms are not instructive because it is difficult to reproduce pathologic changes in this joint. His diagrams are instructive. He discusses the methods of Smith Petersen and Rogers, Picque and Verrall. The book will interest those concerned with sacro-iliac tuberculosis.

TRAUMATOTHERAPY: THE TREATMENT OF THE INJURED. By John J. Moorhead, B.Sc., M.D., F.A.C.S., Professor of Surgery and Director, Department Traumatic Surgery, New York Post-Graduate Medical School and Hospital. Cloth. Price, $7. Pp. 574, with 625 illustrations. Philadelphia: W. B. Saunders Company, 1931.

This is an effort to give the detailed technic of treatment of the injured, but it is limited almost entirely to injuries of the bones and joints. Mention is made of injuries to the viscera of the chest and abdomen in only a few pages. Care of minor wounds is first described, with particular attention to those of the hands. Wounds of the joints are considered separately; also stiff joints. Dislocations are discussed adequately. Nearly half of the book is taken up with the treatment of fractures, which is clearly described including the necessary apparatus and the technic of use. Indications and a brief outline for necessary operative treatment are given, but the chief emphasis is placed on manipulative reduction. The author prefers traction in fracture of the lower extremities, usually with suspension and, in a few instances, skeletal traction. In treating many injuries and in the follow up care great value is given to soaking the part in hot soap suds, followed by massage and heat. Injuries of nerves and tendons are considered to be of great importance. Amputations and plastic operations on the bones are considered under operative treatment. The use of physical therapy is mentioned with certain injuries. Two valuable chapters describe the special indications in the treatment of the aged and of the very young. One important chapter deals with the medicolegal phases. The large amount of experience of the writer in injuries of the bones and joints makes this work of great value.

DIE FADENPILZERKRANKUNGEN DES MENSCHEN. Von Professor Dr. Robert Otto Stein. Lehmanns medizinische Atlanten, Band XII. Second edition. Cloth. Price, 12 marks. Pp. 128, with illustrations. Munich: J. F. Lehmanns Verlag, 1930.

This is a brief but concise monograph on a special field of dermatology, in which the present knowledge of mycologic diseases is well summarized. There is a general chapter in which are considered the morphology of fungi, microscopy and cultivation methods, immunity reactions, animal experimentation and the recent work on trichophytin. The special part gives the clinical details of the mycotic skin diseases and discusses their treatment. The colored reproductions of moulages and cultures are exceedingly well done. This volume should prove of great interest to all those engaged in mycologic work.

MEDICINE IN VIRGINIA IN THE SEVENTEENTH CENTURY. By Wyndham B. Blanton, M.D. Cloth. Price, $6. Pp. 337, with illustrations. Richmond: William Byrd Press, Inc., 1930.

This volume, prepared by the Historical Committee of the Virginia Medical Society, is an account of the practice of medicine in Virginia from 1607 to 1700. The book is introduced by B. F. Tucker. There follows a well written account of the beginnings of medicine in the cradle of the nation. The volume reveals much intensive research into early medical practice and there are numerous quotations from letters written in early days. Without any knowledge of the prevention of infectious disease and with the rigors of primitive life, many people died unnecessarily. The years of hardship favored the development of beriberi and scurvy; malaria was frequent and there were fearful epidemics of respiratory diseases. Medical education began in Virginia not long after the arrival of the first real physician. Illiteracy was widespread and education was largely on the apprentice system. Dr. Blanton presents chapters on women in medicine, on the use of drugs, on physicians in public life, on their vocations and avocations, and also on medical fees. The book concludes with a roster of the seventeenth century physicians. This book will be found one of the most readable, well written accounts of the early history of medicine in the United States available.

DEFORMITÄTEN UND KOSMETISCHE OPERATIONEN DER WEIBLICHEN BRUST. Von Dr. Hermann Biesenberger, Oberarzt des Roten-Kreuz-Spitales Rudolfinerhaus in Wien. Cloth. Price, 18 marks. Pp. 209, with 161 illustrations. Vienna: Wilhelm Maudrich, 1931.

Here and there in the surgical field are operative procedures that occasionally bob up as questionable or dubiously justifiable bits of surgery. Certain aspects of facial cosmetics, the removal of fat from the abdomen, and lastly the matter in hand, breast cosmetics, mastopexy. No criticism may be leveled at any plan of partial resection of a pathologic breast, such as a cystic mastitis or hyperplasia. Surgeons in general, at least in this country, are not yet uniformly in favor of operations designed to replace the pendulous breasts of a secundipara, a tertipara or a quadripara by those of a Venus or a Miss America. Surgery carries certain dangers. This is a more "salable" operation than one for gallbladder disease. It is dangerous teaching, and great numbers of such unnecessary operations with attendant accidents may result. As stated, there are actual indications for mastopexy, but in the aggregate they are far fewer than indicated in this volume. The exposition of the technical work of this book is excellent and is due chiefly to the great numbers of fine wash drawings and photographs.

THE CONQUEST OF LIFE. By Theodore Koppanyi. Cloth. Price, $2. Pp. 263, with illustrations. New York: D. Appleton & Company, 1930.

The author presents this book as a guide, as an appeal for humanized and popularized knowledge. He shows that while the human intellect has not changed since the days of Plato, man has the advantage of a huge inheritance—the accumulated facts of science gathered through the centuries. Man's world has been changed by this accumulation of fact and the discoveries made possible by it. It is this new world that Dr. Koppanyi seeks to make known to the layman. In nontechnical language he tells of the great advances made possible by the discovery of the microscope; he pictures the cell and leads up to the work of the biologic chemist, "who occupies the front line in the modern battle of the conquest of life." In general the book serves its purpose as an introduction to such topics as embryology, glands, animal behavior and the conquest of disease; but certain chapters, such as "The Case for Evolution," are so condensed that they are far from convincing. In his effort to be brief the author has sacrificed so much of the evidence that the general reader is left without much idea of what has been accomplished and the significance of the few discoveries mentioned. Yet in spite of such defects the book will prove interesting and valuable to one who wishes a glimpse of the scientist at work, and of the materials with which he deals.

ARZNEI ALS WERT: ANTRITTSVORLESUNG GEHALTEN ZU HEIDELBERG AM 29. NOVEMBER 1930. Von Wolfgang Heubner, Professor der Pharmakologie. Paper. Price, 0.90 marks. Pp. 26. Berlin: Julius Springer, 1931.

This little brochure, an inaugural dissertation, reveals that Germany is plagued, probably quite as much as this country is, with unnecessary and undesirable medication, doctor-prescribed as well as self-prescribed. The consumption of medicine, heretofore dispensed free of charge to the people by the *krankenkassen*, had become so enormous that some step had to be taken to lessen it in order to permit these organizations to survive financially. In consequence, an order was issued requiring the moderate fee of half a mark for each prescription. The effect of this measure was tremendous and resulted in an almost catastrophic diminution in the consumption of medicaments, to about one half. That the price of merely two or three street car rides should cut down the use of medicines to such an extent shows how low a value these patients place on medication, though it may also partly serve as an index of the poverty of the people. So sorely does the pharmaceutic industry suffer from this diminished use of drugs that strong pressure has been brought to bear to abrogate this order. The author blames the doctors in part for the excessive prescribing of medicines; and he visions pharmacology struggling like an angel with the devils possessing the souls of the doctors. If the minds of physicians could become filled with the sober spirit of science, many of these difficulties would disappear by themselves.

THE EDWIN SMITH SURGICAL PAPYRUS: Published in Facsimile and Hieroglyphic Transliteration with Translation and Commentary in Two Volumes. By James Henry Breasted. Volume I: Hieroglyphic Transliteration, Translation and Commentary. Volume II: Facsimile Plates and Line for Line Hieroglyphic Transliteration. Cloth. Price, £4, 10s. Pp., Vol. I, 596, with 8 plates; Vol. II, plates. Chicago: University of Chicago Press, 1930.

The original author's first manuscript was produced about 3000 to 2500 B. C. The Edwin Smith Papyrus represents, therefore, the oldest known medical work. About 2400 B. C. there was a great physician in Egypt named Iry who evidently was quite an important specialist and who was called the "palace eye-physician," the "palace belly-physician," "one understanding the internal fluids," "guardian of the anus"; in other words, a gastro-enteroproctologist. There was also at that time a palace dentist. In his introduction to the presentation of the facsimile of this papyrus and its translation, Professor Breasted describes in a fascinating manner the nature of early practice of medicine in Egypt. He explains also the manner in which the language of the papyrus is interpreted. The Edwin Smith Papyrus is now owned by the New York Historical Society and the publication has been made possible by the General Education Board, the University of Chicago, and other interested philanthropic bodies. As indicative of the manner in which the case report is fundamental in the progress of clinical medicine, the Edwin Smith Papyrus is based largely on the presentation of case reports. These, however, do not represent the type of objective observation recorded by Hippocrates, but rather an interpretative analysis of such observations. The book is a notable contribution to the history of medicine.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS WITH RECOVERY RECORD. By Bernard Langdon Wyatt, M.D., F.A.C.P., Director, the Wyatt Clinic. With the collaboration of Louis I. Dublin, Ph.D., Statistician, the Metropolitan Life Insurance Company, New York, and foreword by Dr. J. Van Breemen, Honorary Secretary and Director of Advisory Bureau, the International League against Rheumatism, Amsterdam, Holland. Cloth. Price, $2.50. Pp. 166. New York: William Wood & Company, 1930.

This book is written for the patient and the general practitioner and, throughout, a spirit of hope and optimism prevails. The rheumatoid conditions are included under the term fibrositis, coined by Sir William Gowers to describe the inflammatory changes and reactions in the white fibrous tissue of the affected structures, and include "that somewhat motley array of affections which have been variously labeled lumbago, wry neck, neuritis, neuralgia, sciatica, etc." Chronic arthritis is divided into three types in accordance with the classic studies of Nichols and Richardson and the later researches of Cecil, Pemberton, Stoner and others: (1) chronic infectious (proliferative, rheumatoid, atrophic); (2) chronic degenerative (traumatic, hypertrophic, osteoarthritic); (3) metabolic (gout). The mixed types (1 and 2) are more difficult of explanation. The economic aspects of this most disabling disease are stressed and a plea is made for a more extensive program of education and prevention as well as early diagnosis and treatment, the last two being almost solely within the province of the general practitioner. No panacea is offered but all known methods of attack are briefly but thoroughly discussed. The limits of drug therapy are known, but "there are few conditions in which the intelligent use of a combination of procedures will accomplish more."

LE TRAITEMENT DES MALADES NERVEUX ET MENTAUX. Manuel édité sous les auspices de la Société Suisse de Psychiatrie. Par les Docteurs Morgenthaler, privat docent de psychiatrie à l'Université de Berne, et Forel, privat docent de psychiatrie à l'Université de Genève. Paper. Pp. 242, with illustrations. Berne: Hans Huber, 1930.

This interesting brochure considers the types of therapy that are in use in the Swiss hospitals for mental diseases. There are some interesting photographs of the asylums and their equipment as well as some of the therapeutic apparatus. The book deals entirely with mental diseases of a psychotic nature.

TUBERCULOSIS AMONG CHILDREN. By J. Arthur Myers, Ph.D., M.D., F.A.C.P., Chief of Medical Staff, Lymanhurst School for Tuberculous Children. With chapters by C. A. Stewart, M.D., Ph.D., Assistant Professor of Pediatrics, University of Minnesota, and Paul W. Giessler, M.D., Assistant Professor of Orthopedic Surgery, University of Minnesota. An introduction by Allen K. Krause, M.D., the Desert Sanatorium and Institute of Research. Cloth. Price, $3.50. Pp. 208, with 43 illustrations. Springfield: Charles C. Thomas, 1930.

This volume, with a glowing and well deserved tribute by Dr. Allen K. Krause, comes at an opportune time and adds much to this important subject. Dr. Myers, with his vast experience as head of the Lymanhurst School, discusses fully in various sections tuberculosis in infancy, in childhood and in the teen ages and among elderly people. His chapters on exposure to tuberculosis, diagnosis, and nonpulmonary signs of tuberculosis in children are all well treated and should be carefully studied by all men in the practice of medicine. Of especial value is his dissertation on tuberculosis among elderly people and the dangers of dissemination of disease by them to the younger generation.

DIE PRIMÄRE VERRÜCKTHEIT: PSYCHOPATHOLOGISCHE, KLINISCHE UND GENEALOGISCHE UNTERSUCHUNGEN. Von Kurt Kolle, Privatdozent an der Universität Kiel. Band I: Sammlung psychiatrischer und neurologischer Einzeldarstellungen. Herausgegeben von Prof. Dr. A. Bostroem und Prof. Dr. J. Lange. Paper. Price, 25 marks. Pp. 268, with 26 illustrations. Leipzig: Georg Thieme, 1931.

This is a rather interesting discussion of paranoia, with numerous case reports. The data are of interest to psychiatrists who are working with this type of disease.

TAIT MCKENZIE: A SCULPTOR OF YOUTH. By Christopher Hussey. Cloth. Price, $10. Pp. 107, with illustrations. Philadelphia: J. B. Lippincott Company, 1930.

The significance of the sculptures of Tait McKenzie for the physician lies in two points of view. He is primarily a scientist educated in medicine, and from the first he has been interested in the development of fine physical bodies. These two interests are apparent in all of his sculpture, which includes not only extraordinary replicas of athletic action but numerous items of medical interest. His sculptures of effort and muscle action are considered models in their fields. The presentation of his work in this book is as handsome as the work itself merits. The type and the illustrations represent the finest qualities of typographic display.

AN INTRODUCTION TO PHARMACOLOGY AND THERAPEUTICS. By J. A. Gunn, M.D., D.Sc., M.A., Professor of Pharmacology in the University of Oxford. Second edition. Cloth. Price, $1.50. Pp. 233. New York: Oxford University Press, 1931.

That a second edition of this little book should be required within two years shows that its value is appreciated. The main change has been the addition of a satisfactory chapter on the action of drugs on the respiratory system. The medical student who knows all this booklet contains should not only be able to pass his examinations satisfactorily but also have a good groundwork for the use of drugs in his practice.

SOCIAL WORK YEAR BOOK, 1929. Edited by Fred S. Hall. Assistant editor Mabel B. Ellis. Cloth. Price, $4. Pp. 600. New York: Russell Sage Foundation, 1930.

Social work has become a distinctive profession. This volume, prepared by the Russell Sage Foundation, provides a roster of 452 national agencies and a series of articles with bibliographies concerning various aspects of social work. If there is any single criticism to be made of the book, it would be the fact that the material is presented not sociologically but in many instances with a bias, which is bound to result from the special pleading of the authors of the articles. Thus the selection of authors on subjects related to child welfare has been such that the reader gains no adequate comprehension of the fact that there may be several points of view possible concerning such activities. The article on health education is hopelessly incomplete. The article on drug addiction is a competent presentation. The roster of national agencies contains the names of several organizations that are essentially commercial, without an actual indication of this fact in the description. The usefulness of this volume is so obvious that one naturally regrets the book is not better than it is. It is to be hoped that some serious editing in the future will tend to enhance the value of this most valuable book.

NUTRITION AND DIET THERAPY: A TEXTBOOK OF DIETETICS. By Fairfax T. Proudfit, Instructor in Nutrition and Diet Therapy, University of Tennessee School of Nursing. Fifth edition. Leatherette. Price, $2.75. Pp. 705, with illustrations. New York: Macmillan Company, 1930.

The author is well aware of the present recognition by the medical profession of the value of nutrition as an influential factor for the maintenance of health. The subject matter is developed from and based on knowledge of the proper nutrition of the normal body. This method of treatment gives an appropriate understanding of the indicated nutrition of the disorganized body under disease conditions. The book is of especial usefulness for schools of nursing and for handy reference for the trained nurse in her practice. The section on laboratory or diet kitchen work is devoted to practical instruction on special feeding methods, the preparation of the tray, methods of preparation of individual foods, data on food equivalents, and many special recipes for certain diseases. The appendix includes the usual dietetic tables on food composition and food values in terms of standard units, height and weight tables and a group of laboratory lessons. The chapters are well summarized for convenience for hasty review.

MODERN METHODS OF TREATMENT. By Logan Clendening, M.D., Professor of Clinical Medicine, Lecturer on Therapeutics, Medical Department of the University of Kansas. With chapters on special subjects by H. C. Andersson, M.D., J. B. Cowherd, M.D., H. P. Kuhn, M.D., Carl O. Rickter, M.D., F. C. Neff, M.D., E. H. Skinner, M.D., and E. R. DeWeese, M.D. Fourth edition. Cloth. Price, $10. Pp. 819, with 95 illustrations. St. Louis: C. V. Mosby Company, 1931.

This aims to provide a well balanced account of diet, as well as drugs, hydrotherapy, prophylaxis and psychotherapy and similar methods of treatment. The volume has been brought down to date by the consideration of new methods. It is marked throughout by Dr. Clendening's pungent style and individual opinions. The book contains much useful material and is a valuable work of reference.

EKZEM UND EKZEMBEHANDLUNG. Von Prof. Dr. E. Kromayer. Würzburger Abhandlungen. 26 Band, Heft 10. Von Prof. Dr. Joh. Müller. Paper. Price, 2 marks. Pp. 339-363. Leipzig: Curt Kabitzsch, 1930.

To this booklet on eczema and its treatment, a term the Germans are fond of using in reviewing might well be applied: nichts neues. There is the usual historical review leading up to the treatment with preparations having, for the most part, trade names. Any one familiar with this complicated subject will not find anything of interest or of value in the article.

HOW IT HAPPENED. By Adalbert G. Bettman, M.D., F.A.C.S. Cloth. Price, $1. Pp. 110. Philadelphia: F. A. Davis Company, 1931.

The author has prepared a medical "Spoon River" anthology. Each of his essays is apparently the final confessional statement of some person in the community and each of these statements teaches a health lesson. There is perhaps some overemphasis on venereal diseases.

Medicolegal

Malpractice Provable by Lay Testimony

(Daly v. Lininger (Colo.), 288 Pac. 633)

The plaintiff sued the defendant, a dentist, for malpractice, charging that in treating and extracting her teeth he negligently and unskilfully severed the left inferior dental nerve. The defendant contended that the severance of the nerve was unavoidable, that a profuse hemorrhage which accompanied the operation made it impossible for him to "clear up the field so that one could see accurately." The defendant filed a counterclaim for the reasonable value of his services. In the trial court judgment was given the defendant, both on the malpractice charge and on his counterclaim. The plaintiff, by writ of error, brought the case before the Supreme Court of Colorado, which reversed the judgment and remanded the case for a new trial.

The plaintiff contended, among other things, that the trial court erred in instructing the jury, in effect, that whether or not the defendant was negligent or unskilful could be determined only by expert evidence. In a large class of malpractice cases, said the court, in which the question under investigation is so intricate and abstruse, or so little understood, that ordinary jurors would in all probability know nothing about it, they must be guided by the opinions of witnesses having special knowledge. There are, however, at least two other classes of cases dealing with the admission of expert testimony on the subject of negligence: (1) those in which the question or matter under investigation is so simple that the jurors are as well able as experts to pass on it, in which cases the admission of expert testimony is error; (2) those cases in which the matter under investigation is of such character that the opinion of expert witnesses thereon, though not indispensable, may yet be of material assistance to the jury, in which cases the admission or rejection of expert testimony rests in the sound discretion of the court. *Laughlin v. Chistensen*, 1 Fed. (2d) 215. The present case, thought the Supreme Court, comes within the class of cases in which expert witnesses, though not indispensable, may be of assistance to the jury. The defendant testified, continued the court, that he did not know when the inferior dental nerve was severed, and that he continued his operation although he could not at all times see what he was doing, on account of the hemorrhage. It is reasonable to assume, the court said, that the nerve was severed at a time when the profuse flow of blood obstructed the defendant's vision. The negligence involved was not the adoption of an incorrect diagnosis or standard of treatment, but the performance in a negligent manner of treatment of a proper standard. In such a case any pertinent evidence, lay or expert, having any fair tendency to sustain the charge of negligence is sufficient to take the question to the jury. The instructions complained of were therefore held to be erroneous.

The plaintiff contended further that the trial court erred in refusing to permit her to introduce evidence to show that false teeth made for her by the defendant were defective. This was error, the Supreme Court said. In an action for compensation for work and labor based on the reasonable value of the service rendered for an agreed price, the value of the services, if denied, is in issue, and facts may be shown from which it may be determined.

Physician's Error in Judgment Not Actionable

(Donahoo v. Lovas (Calif.), 288 Pac. 698)

The plaintiff, suffering with a severe pain in his hip, applied to the defendant, Lovas, a physician, for relief. Lovas injected alcohol into his patient's sciatic nerve. The patient thereupon, according to his testimony, lost consciousness for a time and thereafter suffered "excruciating pain in his foot." After the injection, he returned home and went to bed, "and his foot remained 'dead' but very, very painful." He was unable to do any work for almost two years following the injection. At the time of the trial, about twenty months after the injection, he was able to walk without crutches, but he had not full use of his foot. The patient sued, alleging negligence in diagnosis and treatment. From a judgment of non-suit he appealed to the

District Court of Appeals, Fourth District, California, where the judgment against him was affirmed.

The main question here presented, said the District Court of Appeals, was whether or not there was sufficient evidence of negligence on the part of the defendant to justify the submission of the case to the jury. A physician impliedly represents that he possesses that reasonable degree of learning and skill that is ordinarily possessed by physicians in the locality where he practices and which is ordinarily regarded by those conversant with his profession as necessary to qualify him to engage in the practice of medicine. It is not enough to show that a physician has not treated his patient in that mode, nor used those measures, which, in the opinions of others, the case required. Such evidence tends to prove errors of judgment, for which the physician is not responsible, as much as it tends to prove the want of reasonable care and skill, for which he may be responsible. From the very nature of the case, expert evidence is required.

The patient here contended that the numbness and pain he suffered were so clearly the result of the injection that no expert evidence was necessary to show negligence. Assuming, said the court, that the injection was the cause of the subsequent pain, that fact alone was insufficient to prove that the physician was negligent in using the treatment. In a restricted class of medical cases the courts have held that the mere happening of an event raises a presumption of negligence, but that rule, the court said, has no application to the facts in this case. The testimony of a physician, that the symptoms added to the patient's condition immediately after the injection were the effect of the injection itself, went to show only that the injection caused the suffering that immediately followed. That neither sheds light on whether the injection caused the prolonged difficulty that followed, nor does it show whether or not that result, if it was a result, was to have been expected. An admission by the defendant-physician that he should not have injected the alcohol into the sciatic nerve, the court said, was an opinion based on the results; it was of no value in showing whether or not ordinary skill was used in the first place.

"An admission to be sufficient must be an admission of negligence or lack of the skill ordinarily required for the performance of the work undertaken. This 'wrong operation' may have been deemed right at the time it was performed. If it was so mistakenly performed as the result of a bona fide judgment by a qualified surgeon, he will not be held liable for the unfortunate results of his mistake." *Markhart* v. *Zeimer*, 67 Calif. App. 363, 227 Pac. 683.

Assuming, said the court, that the plaintiff's later difficulties came from the injection of alcohol into his sciatic nerve, the evidence is silent as to whether the physician used ordinary skill under the circumstances. Negligence on the part of a physician is not presumed but must be affirmatively proved. In the absence of evidence on the subject, it will be presumed that a physician discharged his full duty to the patient, including the exercise of reasonable care and skill in his treatment. 48 C. J. 1142.

Evidence: Admissibility of Hospital Records.—The general rule is that if a document, such as a hospital record, is offered in evidence and found admissible in part, the entire document should be admitted. The same rule prevails where a document not strictly admissible is admitted in evidence by agreement. Irrelevant matters, however, although a part of an otherwise admissible conversation set forth in the document, should be excluded, notwithstanding the general rule that the entire document or record should be admitted.—*Sullivan v. Morse (Mass.), 171 N. E. 668; Calhoun v. Morse (Mass.), 171 N. E. 668; Connors v. Morse (Mass.), 171 N. E. 668.*

Workmen's Compensation Acts: Medical Services as "Compensation."—The term "compensation payable," as used in the workmen's compensation act, does not embrace temporary medical services furnished by the employer. Medical services are not "payable"; they are "performed" or "rendered." Where the language of the act reads that the employee may not "collect" from both employer and a third person who is at fault, it would be inapt to refer to the temporary medical attention as having been "collected" by the injured employee. The word "collected" implies the act of payment and reception of money.—*City of Nashville v. Latham (Tenn.), 28 S. W. (2d) 46.*

Society Proceedings

COMING MEETINGS

American Medical Association, Philadelphia, June 8-12. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of the Feeble-Minded, New York, May 25-28. Dr. Howard W. Potter, 722 West 168th Street, New York, Secretary.

American Bronchoscopic Society, St. Louis, June 6. Dr. Louis H. Clerf, 128 South 10th Street, Philadelphia, Secretary.

American Climatological and Clinical Association, Hot Springs, Va., May 7-9. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Dermatological Association, Toronto, Canada, June 15-17. Dr. William H. Guy, 500 Penn Avenue, Pittsburgh, Secretary.

American Gastro-Enterological Association, Atlantic City, May 4-5. Dr. Charles G. Lucas, 307 West Broadway, Louisville, Secretary.

American Gynecological Society, Hot Springs, Va., May 18-20. Dr. Floyd E. Keene, 133 South 36th Street, Philadelphia, Secretary.

American Heart Association, Philadelphia, June 9. Dr. Irl C. Riggin, 450 Seventh Avenue, New York, Executive Secretary.

American Laryngological Association, Atlantic City, June 15-17. Dr. George M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, St. Louis, June 3-5. Dr. R. L. Loughran, 33 East 63d Street, New York, Sec'y.

American Neurological Association, Boston, May 27-29. Dr. Henry A. Riley, 117 East 72d Street, New York, Secretary.

American Ophthalmological Society, Asheville, N. C., June 1-3. Dr. Emory Hill, 501 East Franklin Street, Richmond, Va., Secretary.

American Otological Society, Briarcliff, New York, June 17-19. Dr. Thomas J. Harris, 104 East 40th Street, New York, Secretary.

American Physical Therapy Association, Philadelphia, June 8-9. Dr. C. C. Vinton, 585 West End Avenue, New York, Secretary.

American Proctologic Society, Philadelphia, June 7-9. Dr. Curtice Rosser, Medical Arts Building, Dallas, Texas, Secretary.

American Psychiatric Association, Toronto, Canada, June 1-5. Dr. Clarence O. Cheney, Hudson River State Hospital, Poughkeepsie, N. Y., Secretary.

American Society for Clinical Investigation, Atlantic City, May 4. Dr. Cyrus C. Sturgis, Simpson Memorial Institute, Ann Arbor, Mich., Sec'y.

American Society of Clinical Pathologists, Philadelphia, June 7-9. Dr. A. S. Giordano, 604 North Main Street, South Bend, Ind., Secretary.

American Therapeutic Society, Atlantic City, June 5-6. Dr. Grafton Tyler Brown, 1801 I Street, N. W., Washington, D. C., Secretary.

American Urological Association, Memphis, Tenn., May 18-22. Dr. Gilbert J. Thomas, 1009 Nicollet Avenue, Minneapolis, Secretary.

Arizona State Medical Association, Nogales, May 7-9. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.

Association for the Study of Internal Secretions, Philadelphia, June 8-9. Dr. F. M. Pottenger, Monrovia, Calif., Secretary.

Association of American Physicians, Atlantic City, May 5-6. Dr. James H. Means, Massachusetts General Hospital, Boston, Secretary.

Connecticut State Medical Society, Bridgeport, May 20-21. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

District of Columbia, Medical Society of, Washington, May 6. Dr. C. B. Conklin, 1718 M Street, N. W., Washington, Secretary.

Florida Medical Association, Orlando, May 11-12. Dr. Shaler Richardson, 111 West Adams Street, Jacksonville, Secretary.

Georgia, Medical Association of, Atlanta, May 12-15. Dr. Allen H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, East St. Louis, May 5-7. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 13-16. Dr. Robert L. Parker, 3510 Sixth Avenue, Des Moines, Secretary.

Kansas Medical Society, Manhattan, May 5-7. Dr. J. F. Hassig, Huron Building, Kansas City, Secretary.

Maine Medical Association, Greenville, June 25-27. Dr. Philip Webb Davis, 22 Arsenal Street, Portland, Secretary.

Massachusetts Medical Society, Boston, June 8-10. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, New Orleans, May 19-21. Miss Sue Biethan, General Library, University of Michigan, Ann Arbor, Mich., Secretary.

Minnesota State Medical Association, Minneapolis, May 4-6. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Jackson, May 12-14. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Joplin, May 11-14. Dr. E. J. Goodwin, 634 North Grand Boulevard, St. Louis, Secretary.

National Tuberculosis Association, Syracuse, N. Y., May 11-14. Dr. Charles J. Hatfield, Henry Phipps Institute, Philadelphia, Secretary.

Nebraska State Medical Association, Omaha, May 12-14. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 19-20. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Asbury Park, June 3-5. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Albuquerque, May 20-22. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Syracuse, June 1-3. Dr. Daniel S. Dougherty, 2 East 103d Street, New York, Secretary.

North Dakota State Medical Association, Aberdeen, S. D., June 2-4. Dr. Albert W. Skelsey, 18 Broadway, Fargo, Secretary.

Ohio State Medical Association, Toledo, May 12-13. Mr. Don K. Martin, 131 East State Street, Columbus, Secretary.

Oklahoma State Medical Association, Oklahoma City, May 11-13. Dr. C. A. Thompson, Memorial Station, Muskogee, Secretary.

Rhode Island Medical Society, Providence, June 4. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Carolina Medical Association, Greenville, May 5-7. Dr. E. A. Hines, Seneca, Secretary.

South Dakota State Medical Association, Aberdeen, June 2-4. Dr. John F. D. Cook, Langford, Secretary.

Texas, State Medical Association of, Beaumont, May 5-7. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.

West Virginia State Medical Association, Clarksburg, May 19-21. Mr. J. W. Savage, 303 Professional Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

47: 1-193 (Jan. 15) 1931

Studies on Innervation of Skeletal Muscle: Innervation of Extrinsic Eye Muscles of Rabbit. M. Hines, Baltimore.—p. 1.

Winter Pelage of Adult Albino Rat. D. A. Fraser, Philadelphia.—p. 55.

Studies in Growth Changes in Skull and Face of Anthropoids: Gorilla. W. M. Krogman, Cleveland.—p. 89.

Analysis of Developing Metanephros in Mouse Embryos with Abnormal Kidneys. A. L. Brown, New York.—p. 117.

Postnatal Development of Caudal Integument in Rat. T. C. Erickson, Minneapolis.—p. 173.

American J. Obstetrics & Gynecology, St. Louis

21: 157-300 (Feb.) 1931

*Etiology and Significance of Necrosis (Infarction) of Placenta; Biologic and Histologic Study. T. L. Montgomery, Philadelphia.—p. 157.

*Management of Third Stage of Labor: Blood Loss. L. A. Calkins, Kansas City; J. C. Litzenberg, Minneapolis, and E. D. Plass, Iowa City.—p. 175.

*Comparison of Results of Surgery and of Radiation in Treatment of Cancer of Cervix: Analysis of 200 Cases Subjected to Radiation Treatment. T. E. Jones, Cleveland.—p. 187.

*Sedimentation Rate in Gynecology and Obstetrics. A. Mathieu, F. E. Trotman, H. D. Haskins, E. E. Osgood and J. Albert, Portland, Ore. —p. 197.

Observations on Functional Menstrual Disturbances of Adolescents. E. D. Plass, Iowa City.—p. 205.

Hemorrhage in Early Months of Pregnancy. W. B. Hendry, Toronto. —p. 211.

Accidental Hemorrhage: Ablatio Placentae. J. O. Polak, Brooklyn.—p. 218.

*Placenta Praevia. A. H. Bill, Cleveland.—p. 227.

*Pregnancy and Labor in Elderly Primipara. J. K. Quigley, Rochester, N. Y.—p. 234.

Treatment of Hyperemesis Gravidarum. H. B. Van Wyck, Toronto. —p. 243.

Venoclysis, Continuous Intravenous Administration of Dextrose. W. T. McConnell, Louisville, Ky.—p. 250.

*Choriomas. H. Schmitz, Chicago.—p. 256.

Obstetric Morbidity and End-Results. T. Welton, M. Glass and V. P. Mazzola, Brooklyn.—p. 263.

Vaginal Repair. A. J. Rongy, New York.—p. 269.

Observations on Toxemic Nephritic Group Cases: Classification. F. S. Kellogg, Boston.—p. 275.

Application in Forceps Extraction. P. T. Harper, Albany, N. Y.—p. 280.

*Matin Sleep. G. F. Chandler, Kingston, N. Y.—p. 285.

Necrosis of Placenta.—From the study of 400 consecutively delivered placentas, Montgomery concludes that necrosis of the placenta is a physiologic phenomenon and is found to some degree in every full term placenta. The process is initiated by degeneration of the syncytium and deposit of fibrin in the intervillous space. It appears likely that during pregnancy ferments are formed by the maternal tissues as a protection against the invasive character of the chorionic epithelium, and that these ferments, as constituents of the maternal blood, cause degeneration of the syncytium. The successive stages in the progress of necrosis of the placenta are "focal necrosis of placental villi," "conglomerate necrosis of placental villi" and "conglomerate necrosis of placental villi with extensive intervillous thrombosis." Long standing areas of necrosis may undergo the following alterations: disintegration and absorption of the red blood cells, which alters the color of the lesion from red to white (common); disintegration and absorption of intervillous fibrin deposit leaving pale, closely compacted, necrotic villi (not uncommon); autolysis and cyst formation in the center of the necrotic tissue (infrequent), and invasion with monocytes and beginning organization of tissue (rare). Hematomas of the placenta are not of the same nature as the necrotic lesions of the placenta. Hematomas result from the rupture of decidual arterioles. They occur most frequently when pregnancy is complicated by chronic nephritis. Their etiology and mechanism of formation are similar to that of uteroplacental apoplexy, and the two lesions may be found in the placenta. Necrosis of the placenta is found no more frequently in toxemia of pregnancy than in normal pregnancy. There is insufficient evidence for the statement that "infarcts" of the placenta cause toxemia of pregnancy. Hemorrhagic lesions (hematomas) of the placenta, however, are associated with nephritic toxemia. The term "necrosis" is preferred to "infarction" because, as has been demonstrated, the process begins with small areas of tissue death rather than with obstruction of circulation.

Management of Third Stage of Labor.—On the basis of a study of the blood loss in the third stage of labor in three series of cases that provide a total of 5,600 cases and offer an opportunity for comparative analyses between clinic and private practice, as well as between two different teaching clinics where there exist certain differences in types of material and also certain differences in technic, Calkins and collaborators suggest the following technic for the management of the third stage of labor. Immediately on the birth of the baby the fundus is carefully located by the obstetrician or an assistant and is held constantly until the placenta is separated and expressed and bleeding thoroughly controlled. Care is taken not to massage the uterus unless there is evidence of considerable softening or actual bleeding. Of the signs of placental separation, beginning bleeding (excluding cervical bleeding) would seem to be the most important. As soon as there is evidence of placental separation, the organ should be expressed by squeezing the uterus and making moderate downward pressure. This separation of the placenta takes place in the large majority of cases in from one to five minutes. Immediately following the delivery of the placenta, firm contraction of the uterus should be produced by (1) the administration of solution of pituitary, hypodermically, and (2) moderately vigorous massage of the uterus. This massage is probably more important than the solution of pituitary. The uterus should be watched closely for at least one hour following delivery. Ergot may also be given at the discretion of the obstetrician. At the end of one hour all clots should be expressed from the uterus and vagina. It is believed that this technic, carefully carried out, should result in an average loss of not more than 150 cc. of blood.

Treatment of Cancer of Cervix.—A review of 325 cases of carcinoma of the cervix in which the patients were examined, treated, and observed personally by Jones between the years 1920 and 1929, inclusive, discloses the fact that in the cases seen in 1929 the disease was just as far advanced as in those seen in 1920, notwithstanding the numerous articles that have been written on the subject and the publicity given it by the Society for the Control of Cancer.

Sedimentation Rate in Gynecology and Obstetrics.—Mathieu and collaborators give the technic for an accurate test permitting a report on the sedimentation rate within forty-five minutes after the blood reaches the laboratory. This test has distinct advantages over other methods of determining the sedimentation rate for the patient, the physician and the technician. Results of a large series of studies in normal women and in gynecologic and obstetric conditions are presented. Its chief value is as a clue to the existence of previously unsuspected infection or malignant tumor and in following the course of the individual case. Repeated determinations on the same individual are essential if the maximum information is to be obtained.

Placenta Praevia.—Bill states that all patients with placenta praevia should be treated in the hospital if possible and should be sent there immediately without vaginal examination or packing. A careful estimation of the loss of blood should be made and in all cases of doubtful operative risk prophylactic blood transfusion should be performed and sufficient blood given to insure the safety of the patient. If there is little or no dilatation of the os, cesarean section should be performed whether the baby is alive or dead, for the viability of the child has no bearing on the choice of method for delivery. If there is considerable dilatation of the os and the fetal head is engaged, simple rupture of the membranes may control hemorrhage until the baby may be delivered by forceps; or, if the fetal head

remains high, podalic version may be performed. These procedures should be used only in the marginal variety of placenta praevia.

Pregnancy and Labor in Elderly Primipara.—Quigley presents the results of a study of pregnancy and labor in more than 300 primiparas. He states that the management of labor in elderly primiparas is no different from that in young primiparas. A large proportion of these cases will permit of delivery through the pelvis, 89 per cent in his series. In only 2.9 per cent of the patients was the age of the patient the sole factor in deciding for abdominal section and, then, after a trial labor. Two measures, viz., analgesia during the first and second stage and the low cervical section, facilitate a thorough trial labor after which it will be found that many patients such as were formerly subjected to elective cesarean section can be delivered by the pelvic route. While pregnancy and labor in the woman having her first child after 30 carries with it an added risk to the mother and her baby, this hazard has been greatly overestimated.

Choriomas.—Eight cases of malignant choriomas and three cases of benign choriomas were observed by Schmitz within a relatively short time. They were referred either on account of persistent uterine bleeding simulating a malignant disease in some instances or for prophylactic radiation therapy to prevent recurrence after preceding surgical removal. The pathologic, diagnostic and therapeutic observations were of unusual interest and are recorded.

Matin Sleep.—Matin sleep anesthesia is the name Chandler has given to the routine administration of 10 grains (0.6 Gm.) of phenobarbital to adult patients between the hours of 9 and 12 the night preceding an operation and followed with gas-ether at operation in the morning. Between the ages of 12 and 21, 5 grains (0.3 Gm.) of phenobarbital are given, and, between the aged of 5 and 10, 2 grains (0.1 Gm.). In the morning the patients come to the operating room in a drowsy condition after having slept the night through. The advantages of matin sleep are enumerated thus: It eliminates the mental hazard. It allays the preliminary worry, putting the patient absolutely and securely at ease during the first night of anxiety. Going to the operating room is of no importance to him. The use of only about one third the usual amount of ether is necessary. Since so little ether is used there is practically no vomiting. Little morphine is necessary—sometimes none at all, so there is no blocking up of elimination. Patients are quiescent for two days following the operation. The time passes quickly for them and the convalescence is more pleasant. Finally, the operation has been performed with no apparent mental shock.

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21: 115-236 (Feb.) 1931

Water-Borne Typhoid Still a Menace. A. Wolman, Baltimore, and A. E. Gorman, Newark, N. J.—p. 115.
Epidemiologic Study of 383 Cases of Meningococcus Meningitis in City of Milwaukee, 1927-1928 and 1929. M. R. French, Milwaukee.—p. 130.
Epidemic of Cerebrospinal Meningitis in Saginaw, Mich. W. H. Pickett, Lansing, Mich.—p. 139.
Experience of Meningitis Division of New York Department of Health. J. B. Neal, New York.—p. 147.
Serum Therapy of Meningococcus Meningitis. A. Wadsworth, Albany. —p. 157.
Control Measures Adopted for Epidemic Cerebrospinal Fever on Ships. J. C. Geiger, San Francisco.—p. 163.
Epidemic Meningitis on Pacific Coast, 1929. J. C. Perry, San Francisco. —p. 171.

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*Cervicothoracic Ganglionectomy, Trunk Resection and Ramisectomy by Posterior Intrathoracic Approach. A. W. Adson, Rochester.—p. 227.
Roentgen Diagnosis of Duodenal Ulcer. A. Akerlund, Stockholm, Sweden.—p. 233.
*Chylothorax and Chylous Ascites. I. Cohn, New Orleans.—p. 260.
Histologic Studies of Thyroid Gland. J. W. Hinton, New York.—p. 269.
Gastric Acidity in Relation to Biliary Tract Disease: One Hundred Cases. C. W. Lueders and L. R. Scherer, Philadelphia.—p. 280.
*Gastric Syphilis. P. A. O'Leary, Rochester, Minn.—p. 286.
Need for "Standards" in Investigative and Therapeutic Work in Gastro-Enterology. F. Smithies, Chicago.—p. 294.
Class Teachings in Peptic Ulcer. F. W. White and I. R. Jankelson, Boston.—p. 300.
*New Incision for Operations on Urinary Bladder. O. S. Lowsley, New York.—p. 305.
*Evaluation of Electrosurgery in Treatment of Cancer. G. A. Wyeth, New York.—p. 311.
Value of Surface-Area Proportions in Prognosis of Cutaneous Burns and Scalds. S. G. Berkow, Perth Amboy, N. J.—p. 315.
*Infections of Distal Phalanx of Thumb. H. Berman and M. I. Strahl, Brooklyn.—p. 318.
*Simple Surgical Method for Esthetic Correction of Pendulous Breasts. M. G. DerBrucke, Brooklyn.—p. 324.
*Etiology of Anal Cancer. C. Rosser, Dallas, Texas.—p. 328.
*Prostatic Abscess: Forty-Two Cases. J. C. Sargent and R. Irwin, Milwaukee.—p. 334.
*Cecopexy as Adjunct to Appendectomy in Some Operations on Appendix. D. W. Palmer, Cincinnati.—p. 338.
*Bladder Tumor: Fifty Cases. R. F. Mathews, Worcester, Mass.—p. 343.
Fusion of Knee Joint. A. DeF. Smith, New York.—p. 354.
Large Therapeutic Doses of Tetanus Antitoxin. J. Ireland, Chicago.—p. 355.
New Operation for Cure of Paralytic Genu Recurvatum. L. Mayer, New York.—p. 356.
Astragalectomy: Result. A. Whitman, New York.—p. 357.
Breast Abscess. G. S. Bates, Detroit.—p. 359.
Fusion of Knee Joint: Charcot's Disease. M. Cleveland, New York. —p. 361.

Cervicothoracic Ganglionectomy.—Adson describes a new technic of cervicothoracic ganglionectomy which differs from the technic described previously in that the thoracic midline incision is extended upward to the spine of the sixth cervical vertebra and is extended downward only to the spine of the third thoracic vertebra. The mediastinum is entered posteriorly after the transverse process of the first thoracic vertebra and the proximal portion of each first rib have been sectioned. This permits one to encounter the stellate ganglion if the lower cervical and the first thoracic ganglions are fused, or to encounter the thoracic trunk between the lower cervical and the first thoracic ganglions if these ganglions are not fused. It assures complete removal of the lower cervical and the first thoracic ganglions with the intervening trunk. However, through this approach, one is not always able to remove the second thoracic ganglion; therefore, to insure against rami from the second or even the third thoracic ganglion entering the lower trunk of the brachial plexus, all rami and branches of the eighth cervical and first thoracic nerves are carefully dissected and interrupted. In addition, extreme care must be taken to interrupt any stray rami that may pass upward mesially to the thoracic trunk, ascending from the lower thoracic ganglions into the brachial plexuses. The results obtained by this procedure, compared with those obtained by the former technic, are better. Horner's syndrome always has been complete, and the retinal arteries and veins have remained permanently dilated. Although the vasodilating effects have been extremely satisfactory and many patients have been cured, suggestions of central vasomotor influence in localized cutaneous areas have appeared. This would indicate that occasionally vasomotor fibers are still missed and would suggest that they probably passed upward mesially to the thoracic trunks, or through the cardiac plexuses, to enter the cervical nerves. Thus it will become necessary, probably, in these occasional cases to follow cervicothoracic ganglionectomy with a Royle type of cervical ramisectomy.

Chylothorax.—Cohn reports a case presenting progressive involvement of all the superficial lymph nodes. Obstructive phenomena were present. About 12,000 cc. of chylous fluid was removed from the chest at various times. Necropsy revealed enlarged mediastinal lymph nodes which obstructed the thoracic duct. The spleen was markedly enlarged and presented the appearance of a cross-section of a bologna sausage. The clinical syndrome was confused with Hodgkin's disease. The difficulties in diagnosis are evidenced by the differences in opinion expressed by the pathologists who have examined the specimens.

Gastric Syphilis.—O'Leary found that 89 of a group of 151 patients with gastric lesions and syphilis had gastric syphilis. These were selected from among approximately 25,000 patients with syphilis. The diagnosis was based on the combined results of prolonged therapeutic tests, histopathologic studies, morphologic changes in the roentgen characteristics, and restoration of gastric function. The demonstration of the existence of other evidence of clinical syphilis is not pertinent to the diagnosis of gastric syphilis. Of the eighty-nine patients with gastric syphilis, 73 per cent had a positive Wassermann reaction of the blood as the only other evidence of syphilis, and 6 per cent had negative serologic reactions. The incidence of clinical signs of syphilis

was almost as high in patients with gastric carcinoma (16 per cent) as it was in those with syphilids of the stomach (27 per cent).

New Incision for Operations on Urinary Bladder.—Lowsley believes that in operations on the urinary bladder it is most important to have the drainage tube inserted into the highest possible point of the vesical fundus and that the course of the fistula remaining after removal of the drainage tube should be obliquely upward to the highest possible point in the skin incision. This position will aid materially in the rapid closing of the wound because the pressure of abdominal contents on the oblique passage will aid in its closure by mechanical pressure. An important consideration lies in the fact that if the fistula and its resulting scar are high and subsequent operation is necessary, the peritoneum is held well up out of harm's way and the second incision below this point is unattended with the danger of penetrating the peritoneum. With these facts in mind he decided that the most suitable incision was an inverted V incision, the apex of which should be well above the point to which the dome of the distended bladder would reach. It is therefore his practice in doing an ordinary suprapubic cystostomy to incise with the apex of the inverted V at a point about three fourths of the distance between the symphysis pubis and umbilicus.

Electrosurgery in Treatment of Cancer.—When cancer is both advanced and radioresistant, it is the experience of Wyeth that neither scalpel nor radiation has much to offer. To this rather large group of cases electrosurgery or endothermy is peculiarly adapted. Through the surgical application of endogenous heat it is possible to destroy and remove extensive lesions with a degree of protection not provided by any other agent. Particularly in the treatment of those radioresistant lesions that are notoriously prone to recur after scalpel excision, such as squamous carcinoma, neurogenic sarcoma and melanoma, has endothermy won for itself a unique place. Not alone in advanced radioresistant lesions should endothermy be held a dependable adjunct but its merits render it yet more dependable in the treatment of beginning cancer and precancerous lesions. Too often is this method fallaciously regarded only as a means of last resort.

Infections of Distal Phalanx of Thumb.—Berman and Strahl assert that infection of the distal phalanx undergoing necrosis with complete destruction of the diaphysis and even as much as seven eighths of the epiphysis involved will have a tendency to go on to complete bone restoration of the phalanx, if suitable drainage is instituted and sequestrums are removed. The removal of sequestrums hastens restoration; the nonremoval will cause delay in waiting for them to be discharged from the wound and may destroy neighboring healthy tissue. The diaphysis bears the brunt of the necrosis, being within the upper four fifths of the phalanx (closed space) while the epiphysis, which is in the lower fifth, does not, being outside the closed space. A horseshoe incision at the tip of the finger not extending below the upper four fifths of the phalanx is the incision of choice. Necrosis in a mild case does not necessarily call for curetting for improvement. While the receding of the flaps made by the horseshoe shaped incision may dwarf the growth of the phalanx, sufficient packing will prohibit this.

Pendulous Breasts.—DerBrucke gives the technic of a simple surgical method for the esthetic correction of pendulous breasts which he has devised and which he believes fulfils all the necessary requisites. It is simple in execution. There is no distortion or destruction of vital tissue. The cosmetic result approximates the normal. The dangers of infection and interference with lactation are minimized. There is no economic loss of time.

Anal Cancer.—Rosser presents a series of thirteen cases of anal cancer that occurred in his rectal services. In twelve of these a benign condition is believed to have been present before the onset of malignancy and to have brought about a local tissue predisposition. In addition, eighteen such cases from the literature and two from other services are reviewed. It is suggested that a more general investigation of the prior history and local changes will multiply the number of similar reports. Admitting the possibility of coincidence in some cases, the author believes that there is satisfactory evidence that anal cancer may develop in tissue altered by hemorrhoids, fistulas or cicatrices.

Prostatic Abscess.—On the basis of a detailed study of forty-two cases of proved frank abscess of the prostate, Sargent and Irwin believe that in any acute prostatic inflammation there is complete safety in waiting until careful observation has permitted a definite diagnosis of frank abscess formation. Both prostatic lobes should be opened, whether or not the signs indicate bilateral abscess formation. Any method involving opening of the abscess into the posterior urethra entails unnecessary risk of persisting urethritis from false cavity formation. Drainage through external urethrotomy unduly lengthens morbidity, favors the development of complicating epididymitis, and entails the unnecessary risk of a more or less persistent urinary fistula. No method offers greater freedom from complications and sequelae or more certain cure of the disease than that of radical perineal dissection with posterior prostatotomy.

Cecopexy.—Because of the general unsatisfactory experience with the end-results of operations for chronic appendicitis about six years ago, Palmer began to add the operation of cecopexy to a limited group of appendectomies. His early training had been such as to look with great disfavor on all the internal drapery operations. In a considerable number of patients, from 10 to 20 per cent, one may find on careful investigation a tendency for the right colon and cecal head to sag down into the pelvis, producing a pendulous cecum. The cecum alone or the entire right colon may be so slightly fixed to the posterior abdominal wall as virtually to be attached by a mesentery so that the greater part of the colon's circumference is peritonealized, thus making possible the lifting of the cecum and ascending colon out of the abdomen as much as 3 or 4 inches. This condition of right colonic hypermotility or ptosis is often present without an appreciable general visceroptosis. In addition to the vertical excursion, which may be as much as 6 inches, marked lateral motility may take place. The onset of symptoms in these patients is usually indefinite, as it is impossible to state when ptosis becomes translated to stasis. Most usually complaint comes at or following puberty or with the beginning of regular work at a trade or job, or in another group, soon after the patients get on their feet after pregnancy. Since the beginning of this study in January, 1924, there have been fifty-seven patients, on twenty-eight of whom cecopexy was added to appendectomy because it did not seem that the amount of disease found about the appendix was sufficient to account for the symptoms complained of by the patient. There have been no deaths and replies to a questionnaire have been received from twenty-seven. There have been twenty-nine "control" cases, from whom twenty-seven replies have been received. Tables summarizing the two series show that the results were better following appendectomy and cecopexy than following appendectomy alone.

Bladder Tumor.—The treatment of fifty cases of bladder tumor, both benign and malignant, convinces Mathews that excision of tumors as generally carried out is not the method of choice. The high frequency current, through the cystoscope or by open operation (suprapubic) when vigorously applied even in apparently hopeless cases has worked out well. The results in the past of the treatment of bladder tumors have been so unsatisfactory in his hands, owing to many factors (late diagnosis), that any method was welcome. Radical excision or resection as generally practiced did not seem to relieve the condition, in many cases causing aggravation of symptoms with implantations and metastasis. Later on the introduction of cautery and high frequency for excisions and resections made another advance in the progress of therapeutics of bladder tumors. Radium in the form of radon seeds, used as an adjuvant to other types of treatment, has worked to his satisfaction. Fulguration with the bipolar high frequency current for benign growths is the method of choice for this histologic type of tumor. It is also the proper method to use in excision or resection of other types of growth (malignant). Whenever possible, malignant growths should be resected (high frequency); if not possible, the high frequency current should be used to excise. If not excisable, a direct fulguration with high frequency or cautery

should be done. The application of radium is used only as an adjuvant to other treatments. It is much easier to plant radium through a suprapubic wound than through the cystoscope. Too large tumors should be irradiated from above. The placing of radon seeds should be checked up roentgenologically. On several occasions, many of the seeds have not remained in situ. The seeds are removed within five days by the cystoscope or other means available. In malignant growths of the bladder, especially those that are invasive and ulcerative (advanced malignant tumors), radical treatment only tends to aggravate the condition. Palliation should be given in the form of high voltage roentgen therapy for the relief of symptoms and, finally, suprapubic cystotomy. For the benign papillomas the treatment is one or many applications of the high frequency current. Multiplicity of tumors (benign papillomas and malignant papillomas) as a rule requires open operation with the application of cautery or high frequency. Cystoscopic fulguration in these cases is not practical.

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*Treatment of Cardiovascular Syphilis: Aortic Regurgitation with Congestive Heart Failure. G. Herrmann and C. Jamison, New Orleans. —p. 1.

*Edema in Patients with Syphilis: Renal and Cardiac Origin. G. Herrmann, New Orleans.—p. 19.

*Treatment of Syphilis in Tuberculous Patients. M. Sullivan, New Orleans.—p. 37.

*Syphilitic Juxta-Articular Nodes. L. A. Brunsting, Rochester, Minn. —p. 42.

*Two Types of Arsphenamine. R. L. Larsen, Evanston, Ill.—p. 50.

*Curative Values of Certain Bismuth Compounds. S. S. Greenbaum and A. M. Rule, Philadelphia.—p. 59.

*Transmission of Syphilis by Blood Transfusion. S. H. Polayes and M. Lederer, Brooklyn, N. Y.—p. 72.

*Rapid Precipitation Tests for Syphilis and Blood Transfusion. B. S. Levine, Hines, Ill.—p. 81.

*Herpes Zoster During Arsphenamine Therapy. J. L. Wollheim, New York.—p. 90.

*Comparison of Hinton, Wassermann and Dark-Field Examinations in Primary Syphilis. F. M. Thurmon, Boston.—p. 93.

Disparity Between Parallel Serologic Tests for Syphilis, Its Use to Increase Sensitiveness of Serologic Examination, and Titration Method for Evaluation of Technic. W. Ashby, Washington, D. C.—p. 102.

Treatment of Cardiovascular Syphilis.—An analysis of the results of the total cardiac supportive as well as antisyphilitic treatment of 100 patients with syphilitic aortic regurgitation and congestive heart failure and edema is presented by Herrmann and Jamison. They state that the treatment of the myocardial insufficiency seems to be the first indication followed after reestablishment of the circulatory equilibrium by the milder antisyphilitic measures. The older the patient at the time of the congestive failure, the more serious is the outlook. Digitalization by the slow method with the addition of the purine diuretics and prolonged rest in bed for two to three weeks seemed to be the safest and most promising procedure for combating the congestive failure. Effective cardiac supportive treatment is paramount to success. The use of arsenicals intravenously is hazardous until a thorough preparatory course of mercury and iodides for two to three months is completed. Mercurial diuretics used carefully beginning with small doses have been spectacularly effective in persons with aortocardiac syphilis and with edema in the absence of grossly impaired renal function. Iodides, mercury and bismuth are then in order and after two courses of each, neoarsphenamine in 0.05 to 0.1 Gm. doses the first week and then each succeeding week 0.15, 0.2, 0.3 and 0.45 Gm., respectively, continuing at this last dosage at weekly intervals for four weeks until a total of 3 Gm. of neoarsphenamine has been injected. Then for eight weeks iodides, mercury and bismuth followed by a second course of 0.45 Gm. doses of neoarsphenamine for eight weeks, a third course of mixed treatment and a third course of arsphenamine to be followed thereafter by more or less continuous mild mixed antisyphilitic therapy. Rest, the restriction of physical activity and the maintenance of the patient in a state of good general nutrition along with the application of the therapeutic measures outlined seem to add definitely to the total but still all too short span of life that follows the onset of heart failure in one with syphilitic aortic regurgitation. The patient is made more comfortable, that is, the quality of life is immeasurably added to by the medical management, and this would be worth while even if the quantity or the number of days were not increased. The promptness of the response to therapy is of prognostic significance, and rest added after the response and reestablished circulatory equilibrium is of great value.

Edema in Patients with Syphilis.—The rôle that may be played in the production of edema by syphilis is discussed by Herrmann. Cardiac and renal disorders and functional changes directly responsible for the accumulation of fluids in the tissues are reviewed. The pathologic physiology of edema production in general is elaborated with special reference to the newer conception of these abnormal states in the tissues. The clinically characteristic massive albuminuria of syphilitic nephritis is the initiating factor in the important biochemical changes, reduction of the proteins with a reduction of the serum albumin and an attempted but futile compensatory rise of serum globulin that accounts for the accumulation of edema; similar changes have been shown to have a direct bearing on the production of edema in nonsyphilitic nephritis or myocardial insufficiency. The types of syphilitic nephritis are mentioned and the common types and especially cardiorenal syndromes of syphilitic origin are carefully described and illustrated by clinical case records. The hopefulness of the outlook of recognized and treated syphilitic types of nephritis as contrasted with the ill omened prognosis of the nonsyphilitic types is stressed. The spectacular action of drugs in syphilitic nephritis is again emphasized. The author believes that cases of the various types of syphilitic nephritis warrant further study with the application as often as possible of the most modern methods of estimating kidney function before and after the treatment has been instituted.

Treatment of Syphilis in Tuberculous Patients.—Sullivan's study was made from the records of 1,000 cases of tuberculosis. The incidence of syphilis in the series was 11.6 per cent. From data presented, the following general rules may be formulated: If the syphilis is latent, the patient is old, or there exist such serious complications as chronic nephritis or heart disease, it is probably advisable to try first general hygienic care and if no improvement results to begin antisyphilitic therapy cautiously. When the syphilis is active and also when it is influencing the severity of the tuberculosis, the syphilis should be treated. This is substantiated by the fact that general experience has shown that in all types of tuberculosis and syphilis there is (under antisyphilitic treatment) a higher percentage of improvement and a decrease in the death rate. The dosage should be at first 0.25 Gm. of neoarsphenamine, later increased to 0.4 Gm. Never should more than 0.6 Gm. of the arsenical be used, for, although smaller doses are well tolerated, patients treated with from 0.6 to 0.9 Gm. of neoarsphenamine usually show an aggravation of the tuberculosis and often die. The treatment when once begun, however, must be carried out completely. Mercury and bismuth compounds should supplement the arsenicals. Iodides should not be used.

Syphilitic Juxta-Articular Nodes.—Clinical and histopathologic descriptions are given by Brunsting of juxta-articular nodes occurring in three men who had never been in the tropics. Definite evidence of syphilis was present in each case; in two cases there was history of infection. The Wassermann reaction of the blood was uniformly positive. In two of the cases there were concomitant signs of visceral involvement: cardiovascular syphilis in one case and cardiovascular and neurosyphilis in the other. Response to treatment for syphilis was surprisingly prompt and complete in the one case in which the juxta-articular nodes presented the only clinical sign of the disease. In the second case, the solitary nodule was excised for histologic study; in the third case, sufficient time had not elapsed to permit of evaluation of response of the nodules to treatment. Microscopic evidence of syphilis was definite in only one case; in the other cases the cellular reaction was nonsyphilitic.

Two Types of Arsphenamine.—Larsen states that, in conformity with the conclusions drawn from a comparison of the chemical, physical and biologic properties of various kinds of arsphenamine, clinical reports would also indicate that there are two types of arsphenamine, at least as far as tolerance is concerned. One is more or less methylated and the other is nonmethylated. A consideration of the available data tends to show that the "substance X" of Schamberg, Kolmer and Raiziss

is not a mysterious thing but only the element of methylation, the degree of which depends on the factors present in precipitating the arsphenamine from methyl alcohol with ether. Some of these factors are the degree of acidity, the time of standing before precipitation, the temperature and the amount of water in either the base or the methyl alcohol and, possibly, factors in drying the product. The methylated type is more toxic than the nonmethylated.

Curative Values of Certain Bismuth Compounds.—Greenbaum and Rule found that with ten bismuth products obtained in the open market there was a wide variation in the curative dose in experimental rabbit syphilis. The study clearly demonstrates the folly of using the same dose for all bismuth compounds. Only the established few preparations should be used, since only these few have been extensively studied from the standpoint of the number of doses required ordinarily to bring about serologic negativity in acute early syphilis. The physician must remember that, in the light of present knowledge, if he uses a compound less rich in bismuth metal, an increased number of injections to the "series" is usually indicated.

Transmission of Syphilis by Blood Transfusion.—The attention of the medical profession is called by Polayes and Lederer to the possibility of transmitting syphilis from donor to recipient or vice versa in the performance of blood transfusions. Ten cases of this nature reported in the literature since 1917 are reviewed and an additional case of an infant developing syphilis following a blood transfusion is described by the authors. Difficulties are encountered in determining whether or not the blood of a given donor is infectious. Cases are cited to prove that neither the absence of clinical signs nor a negative blood Wassermann reaction entirely excludes the possibility of the existence of syphilis in the donor. It is urged that family donors should submit to the same rigid physical and serologic examination as professional donors because in a large percentage of the cases family donors were responsible for the transmission of syphilis to the recipients.

Rapid Precipitation Tests and Blood Transfusion.—Levine emphasizes the fact that antigen precipitation is merely the first step of the complement fixation procedure made visible. The recent precipitation procedures used in the laboratory diagnosis of syphilis are relatively not greater as improvements over the early precipitation procedures than the cold incubation complement fixation procedures are over the early Wassermann tests. The improved precipitation procedures are not intrinsically specific for syphilis. They are empirical tests exactly as are the improved complement fixation tests. None of the antigen precipitation procedures are any more sensitive in reaction at any stage of the syphilitic disease than are the properly standardized cold incubation complement fixation procedures. Antigen precipitation procedures, similar to those of complement fixation, yield positive reactions, mostly of weaker intensity, with serum of individuals affected with certain chronic low grade conditions other than syphilis. Such reactions have their value in the determination of suitable donors, although from the point of view of diagnosis of syphilis they are "nonspecific." Antigen precipitation tests for syphilis have their zones of nonreactivity similar to the complement fixation procedures. The colloidal conditions prevailing in some serum at times may favor complement fixation and not antigen precipitation and vice versa. The serum conditions that lead to nonreaction either with the precipitation or with the complement fixation procedures or both are intermittent in the majority of instances. Serum of donors must be tested on at least three occasions and by as many laboratory procedures as possible. One set of tests shall be performed immediately preceding the transfusion. The tests shall include one warm incubation, one cold incubation, and one precipitation procedure. A searching clinical study of the donor must be made in addition.

Herpes Zoster During Arsphenamine Therapy.— Wollheim feels certain that arsenic can produce herpes zoster and that arsenic has a predilection for the nervous system. Little is in the literature concerning the herpes zoster caused by the arsenic in the arsphenamine preparations. He therefore selects and reports three of several of the cases he has seen of herpes zoster occurring during the treatment of syphilis by the arsphenamines. All were new and untreated syphilis which required intensive treatment. The herpes zoster developed after only a few arsenic injections, and, when this reaction was recovered, more arsenic failed to reproduce the nerve skin lesion. In the treatment of this type of herpes zoster, it is mandatory to suspend all arsenicals immediately, but not necessarily mercury and bismuth compounds.

Hinton, Wassermann and Dark-Field Examinations in Primary Syphilis.—The Hinton test was found by Thurmon to be a reliable and sensitive diagnostic procedure in primary syphilis. Thus, in a series of seventy consecutive cases, regardless of the duration of the chancre, the Hinton test was positive in 74 per cent, doubtful in 6 per cent, and negative in 20 per cent at the time of the first examination. The Hinton test is a valuable diagnostic aid in primary syphilis in persons having chancres of two weeks' duration or less. Thus, the test was positive in 54 per cent during the first week, 76 per cent during the second week and from 94 to 100 per cent beyond two weeks. The Massachusetts state Wassermann and modified Kahn reactions in most of the cases compare favorably with the averages reported in the current literature on the Kolmer, Wassermann and Kahn reactions in the diagnosis of primary syphilis. The dark-field examination reaches its highest diagnostic efficiency during the first fourteen days of primary syphilis. The Hinton test more closely parallels the dark-field examination during this period than the Wassermann or a modification of the Kahn reaction. A combination of serologic and dark-field examinations gives the highest diagnostic accuracy. When the dark-field examination is not available, the Hinton test is the serologic method of choice. The duration of the incubation period of the chancre has no influence on the time of appearance of the Hinton reaction in the patient's blood serum.

Archives of Dermatology & Syphilology, Chicago

23: 213-408 (Feb.) 1931

*Tinea Barbae Involving Upper Lip and Accompanied by Dermatophytid. C. M. Williams, New York.—p. 213.
*Dermatitis Due to Sensitization to Contact Substances. B. Kesten and E. Laszlo, New York.—p. 221.
*Verrucae. D. W. Montgomery and G. D. Culver, San Francisco.—p. 238.
*Cutaneous Calcinosis. E. R. Maloney and D. Bloom, New York.—p. 245.
*Discoloration of Skin and Mucous Membranes Resembling Argyria, Following Use of Bismuth and Silver Arsphenamine. L. Spiegel, New York.—p. 266.
*Ionic Medication in Dermatology. L. W. Shaffer, Detroit.—p. 287.
*Tuberculosis of Skin. D. L. Satenstein, New York.—p. 309.
*Clinical Aspect of Serologic Discord in Syphilis. M. A. Lyons, New York.—p. 317.

Tinea Barbae Accompanied by Dermatophytid.—Williams reports a case of tinea barbae involving the upper lip and accompanied by a dermatophytid. He believes that examples of dermatophytid are not nearly so rare as published statistics would indicate and that the number of cases observed will increase as dermatologists learn to look for the dermatophytid as a complication of tinea.

Dermatitis Due to Sensitization to Contact Substances.—In eighteen of twenty-one patients suffering from dermatitis venenata or occupational dermatitis, the etiology was determined or corroborated by patch tests by Kesten and Laszlo. In three there was an exacerbation of the dermatitis when the substances were applied to the sensitized skin. In all the cases there was freedom from dermatitis when the specific substance was avoided. The sensitizing substances were paraphenylendiamine, sodium bichromate, procaine hydrochloride, potassium mercuric iodide, primrose, poison ivy, mascara, face powder and face cream. In the dilutions used, none of these substances were found irritating to the normal skin. Passive transfer of sensitization and desensitization to potassium mercuric iodide is reported. In most instances, dermatitis venenata and occupational dermatitis result from local cellular sensitization to specific nonproteins acquired by previous contact of the substances with the skin.

Verrucae.—In regard to the removal of verruca vulgaris, Montgomery and Culver state that attention should be paid to its anatomy. Verruca vulgaris is countersunk in the tissues, and the downgrowth is accomplished by the extension downward of the interpapillary rete, which extends downward as nubs. The lesion can be tipped out by pressing the edge of the curet

against its side and dragging on it, or by prying it up as one would do in evulsing a tooth. This procedure is quite different from trying to scoop it out. The growth should come out clean; its undersurface can be seen under a low power lens to consist of glistening nubs. The cavity from which the wart has been evulsed is usually deep and bleeds freely because the tops of the papillae with their capillary loops are torn away and opened. Under a boric acid compress the bleeding gradually ceases.

Cutaneous Calcinosis.—Maloney and Bloom review a great part of the literature on calcinosis and describe a case of this condition in a boy 14 years of age, with multiple tumors in the skin and subcutaneous tissue of the hands, elbows and knees. He gave a history of preceding infection of the throat and severe nephritis and showed signs of some endocrine disturbance. This case belongs to the group of metabolic calcinosis. It is conceivable that a preceding nephritis for which the patient was confined to bed for many months had disturbed the physicochemical balance and the solubility of the calcium in the blood, and so produced the calcium deposits in the skin. The authors are unable to state what part the endocrine disturbance, signs of which the patient undoubtedly showed, played in the causation of the calcium tumors.

Discoloration of Skin Resembling Argyria.—A discoloration of the mucous membranes and skin resembling argyria is described by Spiegel in three patients who had received silver arsphenamine intravenously and bismuth intramuscularly over a prolonged period for the treatment of syphilis. Chemical and spectrographic analyses of pieces of skin showed the presence of silver. Bismuth could not be detected chemically but was found spectrographically. The microchemical tests for silver and bismuth in tissue sections were negative in all three cases. The finding of silver in the normal skin of three new-born infants is noted. Silver arsphenamine, although a most potent arsenical in the treatment for the various manifestations of syphilis and especially for neurosyphilis, should not be given to exceed a total dosage of 8 Gm. because of the possibility of producing argyria.

Ionic Medication in Dermatology.—The general principles of ionization in therapy as well as the experimental work on this subject are reviewed by Shaffer. Experiments performed with the use of physical solutions showed that the rate of penetration of ions varies directly as the voltage, that various ions travel at different speeds, and that the rate of penetration in physical solutions and tissue is surprisingly slow. An endeavor was made to show the path followed by drugs under the influence of the galvanic current in their penetration of the epidermis. The assumption that the sweat ducts are important portals of entry was strengthened but not proved. A portion of the current may penetrate directly through the epidermis to the nearest papillae. A review of the literature for clinical reports of the use of ionization in dermatology showed that it has been used in practically all types of chronic infections of the skin. Five cases of coccigenic sycosis are reported, in four of which a rather prompt and satisfactory response was obtained by treatment with ionization of compound solution of iodine. The cases were not observed long enough to insure against relapse. In the fifth, a recent case, treatment is still being given. In two cases of dermatitis papillaris capillitii, the response could not be classed as satisfactory. In more than half of six cases of pruritus ani and two of pruritus vulvae, from excellent to good results were secured. Two cases of verruca failed to respond. Two cases of lupus erythematosus failed to respond to treatment by ionization of quinine, although one is seemingly responding well to that by ionization of gold sodium thiosulphate. Satisfactory anesthesia for dermatologic surgical procedures may be secured by the use of ionization with cocaine, but persistent erythema and pigmentation render the method of little practical value. The question of the mode of action of ionization and its indications in dermatology is discussed.

Tuberculosis of Skin.—Satenstein asserts that the clinical appearance of tuberculosis of the skin varies according to the predominance and histologic location of the tubercles, the inflammatory process and the granulation tissue, or any of the secondary changes, such as hypertrophy or hyperplasia of either the collagen or the epidermis or, finally, as the result of degeneration, necrosis or ulceration of the affected parts. Therefore a clinical diagnosis as to the type of tuberculosis present is not easy from the microscopic picture. The pathologist can report only what the pathologic changes are, and it is for the clinician, who has all the other data, to correlate these changes and to establish the clinical form of tuberculosis.

Serologic Discord in Syphilis.—Lyons performed the Wassermann, Kahn and Vernes flocculation tests on identical specimens for blood serum. Standard technics were followed for each test. He noted that serologic results on identical specimens of serum from patients known to be nonsyphilitic agree, whereas those from syphilitic patients who have been treated disagree. The Vernes flocculation test and the Kahn precipitation test may give positive results before the Wassermann test in early primary syphilis. Only slight disagreement existed in cases of primary and early secondary syphilis. Very close agreement existed in secondary syphilis. Tertiary cases of syphilis showed marked disagreement, owing probably to treatment. Serologic results on identical specimens of serum following the provocative procedure showed that the Vernes flocculation test and the Kahn precipitation test gave positive reactions more frequently than the Wassermann test. Serologic results on identical specimens of serum from congenital cases of syphilis showed marked agreement. The Wassermann and the Vernes tests were more strongly positive than the Kahn tests. It is evident that more than one test, including the Wassermann, is indicated as a guide in the treatment of syphilis.

Archives of Internal Medicine, Chicago

47: 167-338 (Feb.) 1931

*Blood Pressure Before and After Operation in Hyperthyroidism. L. M. Hurxthal, Boston.—p. 167.
*Function of Liver in Diabetes Mellitus. E. L. Meyer, Philadelphia. —p. 182.
*Insufflation of Compressed Air in Treatment for Pneumonia. M. Joannides, Chicago.—p. 196.
*Comparative Changes in Gastric Acidity and Urinary Reaction After Injection of Histamine. M. J. Matzner and I. Gray, Brooklyn.—p. 202.
*Normal Variations in Erythrocyte and Hemoglobin Values in Women. C. Smith, South Hadley, Mass.—p. 206.
*Differential Diagnosis of Mediastinal "Tumors": Analysis of Eight Cases. K. Hosoi and F. C. Stewart, Albany, N. Y.—p. 230.
*Influence of Velocity on Response to Intravenous Injections. S. Hirshfeld, H. T. Hyman and J. J. Wanger, New York.—p. 259.
*Reactions Following Transfusion of Blood, with Urinary Suppression and Uremia. J. Bordley III, Philadelphia.—p. 288.
*Mechanism of Epigastric Distress Associated with Irritable Colon and Chronic Appendicitis. F. M. Smith, W. D. Paul and W. M. Fowler, Iowa City.—p. 316.
*Acromegaly with Diabetes Mellitus and Xanthoma Diabeticorum: Case. E. P. Ralli, New York.—p. 329.

Blood Pressure in Hyperthyroidism.—Hurxthal states that the blood pressure readings taken under basal conditions are lower than those otherwise taken. The difference is most marked in patients with hyperthyroidism. The pulse pressure is increased in hyperthyroidism and decreased in about 50 per cent of the patients following relief from thyroid toxicity. On the basis of averages there is no constant relationship between the height of the systolic blood pressure and the basal metabolism rate. The average height of the blood pressure increases with advancing age. The average basal blood pressure readings in cases of toxic goiter after operation and in cases of nontoxic goiter before operation run parallel. The average basal blood pressure reading following relief from hyperthyroidism in exophthalmic goiter and from toxic adenomatous goiter is approximately the same in all age groups up to 50 years, but thereafter it is slightly higher in the toxic adenomatous group. The blood pressure in hypertension complicated by hyperthyroidism undergoes, on an average, the same change that patients with hyperthyroidism without hypertension undergo following operation. In hypertensive patients with auricular fibrillation and hyperthyroidism, the average blood pressure is higher after operation when thyroid toxicity has been relieved and the normal rhythm has been restored. There is no evidence in this study from which it can be concluded that hyperthyroidism leads to permanent cardiovascular hypertensive disease.

Function of Liver in Diabetes Mellitus.—Clinical and laboratory studies made by Meyer on 100 diabetic persons

apparently indicate that hepatic dysfunction is a frequent occurrence in diabetes mellitus. Of the cases studied, 7 per cent showed both clinical and laboratory evidence of hepatic dysfunction, 28 per cent furnished only laboratory data, 48 per cent were without any abnormal indications, and an additional 13 per cent gave only minimal or doubtful readings. The older the patient and the longer the diabetes mellitus remains uncontrolled, the more frequently hepatic dysfunction becomes demonstrable. Even though the bromsulphalein test was found to yield positive results most frequently, it seems advisable to conduct a series of complementary tests. The study of these cases over an extended period of time created the impression that the modern diabetic regimen materially aids in improving hepatic function and in conjunction with proper preoperative and postoperative treatment permits even diabetic patients with clinical manifestations of hepatic dysfunction to undergo major surgical operations with comparative safety. This study showed also that any patient in whom hepatic dysfunction is demonstrated might advantageously be placed on a prescription diet and a careful search instituted for evidence of latent or potential diabetes.

Compressed Air in Pneumonia.—In experiments on dogs, Joannides found that increased intra-alveolar pressure, when excessive, produces interstitial and mediastinal emphysema, pneumothorax, pneumoperitoneum and air embolism. Increased intra-alveolar pressure causes emptying of the pulmonary vessels when severed from the heart. In pneumonia, the alveoli are drowned with exudate coming from the interalveolar wall and the alveolar surface. Cardiocirculatory collapse follows the consolidation and immobilization of the lung, which causes stasis because of the absence of intermittent expansion and contraction. The heart and the circulation improved when intermittent artificial respiration was instituted in pneumonic lungs as well as in open pneumothorax. A pressure of from 20 to 35 mm. of mercury is sufficient to cause complete expansion of the normal as well as of the pathologic lung. Compressed air serves the purpose of artificial respiration safely and inexpensively. It is not necessary to use pure oxygen or a combination of oxygen and carbon dioxide. The outflow of the air is important, because it regulates the degree of pressure in the lung, the amount of air blown in, the degree of lung expansion and the prevention of the interstitial emphysema syndrome. Pneumonic, consolidated, dark-colored lungs when subjected to increased intrapulmonic air pressure either inside or outside the body became crepitating and pinkish red again. The exact pressure at which the human lung expands is now being measured by the author. A clinical trial will be made as soon as the optimum pressure is obtained.

Gastric Acidity and Urinary Reaction After Injection of Histamine.—The advantages of a test combining gastric analysis and estimation of urinary acidity (alkaline tide) are discussed by Matzner and Gray. Histamine was employed as the gastric stimulant. Not more than 50 per cent of the patients in whose gastric extractions free hydrochloric acid could be demonstrated after the injection of histamine had a definite urinary alkaline tide.

Erythrocyte and Hemoglobin Values in Women.—As it is important to know whether isolated erythrocyte counts should be considered in relation to the time of day of the count and the activity of the person, a study was initiated by Smith to determine the variations of erythrocytes and hemoglobin values during short periods of time. It was found that with accurate technic the red blood corpuscles and the hemoglobin determinations remain remarkably constant during the day and that there are no significant changes due to rest, moderate activity or food. Real differences may occur, however, between counts for separate days and between averages for longer periods of time.

Mediastinal "Tumors."—On the basis of a study of eight cases of different types of mediastinal tumor masses, which they report, Hosoi and Stewart conclude that there is not a single pathognomonic symptom or sign on which one can place absolute trust in the differential diagnosis of mediastinal tumors. Metastasis to the central nervous system is commonly observed. Such metastasis may initiate and dominate the symptomatology. Hence, a diagnosis of primary tumor of the brain may be made in these cases. Tuberculosis may be suspected in the very early stages because of the persistent cough due to bronchial irritation by the growing tumor mass. Clinical observations must be correlated with the roentgen and laboratory data. Confirmatory evidence is obtained by examination of the sputum or pleural fluid for tumor cells, examination of the specimen obtained by probatory puncture or through the bronchoscope and examination of the superficial lymph nodes containing the metastasis (biopsy).

Intravenous Injections.—According to Hirshfeld and collaborators, the rapid injection into the vein of any molecule may result in widespread disturbances. This syndrome is described. The term "speed shock" is suggested. Speed shock may terminate fatally. The primary disturbance occurs in the liver cell. The relationship between speed shock and the anaphylactoid reaction and other allied biologic phenomena such as the nitritoid crisis and posttransfusion reaction is discussed. The belief is expressed that these may be dependent on speed shock. If not, their similarity rests on their common site of origin; viz., the liver cell. Speed shock is important to the pharmacologist, and errata due to failure to consider the factor of velocity are illustrated. In addition to its rôle in the foregoing conditions, speed shock may be important to the clinician as an explanation of the sudden deaths reported following intravenous injection.

Blood Transfusion Reactions.—A delayed or prolonged reaction following transfusion is described by Bordley in seventeen cases. Of these cases, three are reported for the first time and fourteen have been gathered from the literature. The reaction generally runs a peculiar and highly characteristic course which presents the following features: (*a*) Immediately after transfusion, there is a sharp febrile reaction, followed frequently by hemoglobinuria and invariably by suppression of urine. (*b*) There is an interval of several days during which there is symptomatic improvement but continued oliguria. (*c*) After this interval the characteristic features of the delayed reaction develop rapidly. They usually begin with agitation or drowsiness, which is replaced by outspoken evidences of uremia. Convulsions and coma may supervene. The outcome is frequently fatal; eleven of the seventeen patients died. Recovery is associated with diuresis; death occurs in uremia. At necropsy the kidneys are swollen; the tubular epithelial cells contain drops of a peculiar pigmented material and show advanced degenerative changes; the tubular lumens are filled with various cells, blood pigment and débris. Small necroses are generally found in the liver. The events may be thus summarized: A subject receives an injection of incompatible blood, his kidneys are severely damaged and in due course of time uremia sets in. Several possible explanations of these events are discussed. The delayed reaction is not rare; besides the seventeen cases discussed in detail, a number of cases in the literature are cited.

Epigastric Distress.—Smith and his associates assert that the recurring localized epigastric distress associated with an irritable colon or chronic appendicitis is gastric in origin and is induced by a reflex stimulation of the stomach. The stimulation of the stomach is manifested by an increase in tone, particularly of the pyloric region, and an increase in the peristaltic action. The pain appears to be coincidental with the change in tone and the passage of a peristaltic wave over the pyloric portion of the stomach. The distress may be induced any time at which there is sufficient stimulation of the stomach. It may thus occur immediately after meals or at irregular intervals, but frequently a definite periodicity is observed which corresponds with the appearance of hunger contractions. In certain instances of peptic ulcer, a reflex stimulation of the stomach from the colon was demonstrated and the typical epigastric distress was induced. The gastric alterations strikingly resembled those associated with irritable colon or chronic appendicitis, and the pain occurred under the same conditions. In those instances in which epigastric distress was not induced by a stimulation of the colon, no significant changes were demonstrated in the stomach.

Acromegaly.—Ralli reports a case of acromegaly and severe diabetes with xanthoma diabeticorum. The acromegaly had persisted since adolescence and had apparently preceded the onset of the diabetes. In view of the fact that the patient had

marked acromegaly and showed a definite tumor of the pituitary gland, the severity of the diabetes is not surprising. The hypercholesteremia and lipemia responded well to insulin and diet, but in spite of this the tumors regressed slowly. The difficulty in keeping the patient continuously sugar free, even with fairly large doses of insulin, may be accounted for by the increased activity of the pituitary gland. There seems to be little doubt that in this case the diabetes was a true diabetes mellitus, a fact attested to by the presence of the xanthoma, the hypercholesteremia and the high blood sugar curves.

Archives of Pathology, Chicago

11: 171-333 (Feb.) 1931

Enterochromo-Argentaffin Cells. S. B. Pessin, Wauwatosa, Wis.—p. 171.
*Experimental Rheumatic Lesions in Dogs and in Rabbits. V. H. Moon and H. L. Stewart, Philadelphia.—p. 190.
*Fibrous Osteodystrophy (Osteitis Fibrosa) in Experimental Hyperparathyroidism of Guinea-Pigs. H. L. Jaffe, A. Bodansky and J. E. Blair, New York.—p. 207.
*Invasion of Fallopian Tube by Oxyuris Vermicularis. W. J. Jones, La Crosse, Wis., and C. H. Bunting, Madison, Wis.—p. 229.
Mammary Gland Situated on Labium Majus. J. McFarland, Philadelphia.—p. 236.
*Response of Blood Platelets to External Stimuli: Ultraviolet Light, Iodine and Coal Tar. P. E. Steiner and F. D. Gunn, Chicago.—p. 241.
*Significance of Invasion of Blood Vessels in Adenomas of Thyroid Gland. S. Warren, Boston.—p. 255.
Pulmonary Syphilis: Frequency, Pathology and Roentgenologic Appearance. M. C. McIntyre, Kalamazoo, Mich.—p. 259.

Rheumatic Lesions in Dogs and Rabbits.—Young dogs and rabbits, not subjected to sensitization or other previous treatment, were inoculated by Moon and Stewart with *Streptococcus viridans* from a case of bacterial endocarditis in man. The manifestations of disease that followed were similar to the clinical features of acute rheumatic fever. The gross and microscopic lesions in these animals were identical with those that characterize rheumatic disease. These lesions included verrucose valvular endocarditis, auricular endocarditis with calcification, rheumatic nodules—Aschoff bodies—in the myocardium, lesions of the rheumatic type in the aortic walls, proliferative endarteritis involving small arteries, and fibroid nodules in the subcutaneous and muscular tissues. Pericarditis with effusion was produced, but no pericardial adhesions. The organism inoculated was recultivated from some of the lesions and was demonstrated microscopically in sections from others. The results followed a combination of intravenous inoculation with implantation of chronic focus. It is not maintained that this mode of inoculation was essential to the production of the lesions. The authors believe that the use of young animals and of freshly isolated cultures was of great importance in producing the lesions described. The results obtained strengthen the evidence that streptococci of low virulence are the direct cause of rheumatic disease.

Fibrous Osteodystrophy.—Jaffe and collaborators state that the subcutaneous injection of one large single dose of parathyroid extract into a young guinea-pig produces severe and rapid decalcification of the skeleton within forty-eight hours. Age also seems to be a factor in the production of lesions of the bones after single injections of parathyroid extract. Adult guinea-pigs given injections (20 units per hundred grams of body weight) did not show changes in the bones forty-eight hours after the injection. After repeated daily injections of smaller doses of parathyroid extract, resorption of bone and fibrosis of bone and marrow result. The lesions observed after daily injections of parathyroid extract into guinea-pigs are of the same order as those described for osteitis fibrosa without osteoid tissue in man. Osteoid tissue and cysts in the marrow may appear during the repair of severe lesions in experimental hyperparathyroidism of guinea-pigs.

Invasion of Fallopian Tube by Oxyuris Vermicularis.—The case reported by Jones and Bunting is presented as adding to the data accumulating, which seem to show that the widespread parasite *Oxyuris vermicularis* (or more properly *Enterobius vermicularis*) is not to be dismissed too lightly as of little clinical or pathologic importance. In a woman, aged 22, with a history of prolonged perineal nocturnal itching and with symptoms of pain and tenderness in the lower part of the abdomen, accompanied by fever and leukocytosis, there was found at operation: (1) acute appendicitis, with many nematodes of the genus *Oxyuris vermicularis* in the lumen, and fecal concentrations, and (2) acute salpingitis, with a female oxyurid embedded in the wall of the tube.

Response of Blood Plates to External Stimuli.—Ninety enumerations of the blood plates, leukocytes and erythrocytes in the blood of fourteen normal rabbits were made by Steiner and Gunn. The average normal plate counts in this group of animals were somewhat higher than those reported by other investigators. The effect of ultaviolet irradiation on blood plates as reported by previous investigators was corroborated. Iodine applied to the backs of rabbits caused thrombocytosis, beginning in from two to five days, reaching a maximum by the sixth day, and slowly receding to a normal level in from two to three weeks. Marked secondary anemia sometimes occurred within twenty-four hours, with a return of the erythrocytes to normal in from two to three weeks. Coal tar applied to the back was followed by either thrombocytosis or thrombopenia. The numbers of the other blood elements were not appreciably changed. The similarity between the effects on the plate level of ultraviolet rays and of other substances producing dermatitis suggests that the effects may be due to tissue injury and to the absorption of breakdown products that stimulate the formation of blood plates.

Invasion of Blood Vessels in Adenomas of Thyroid.—Of 1,114 adenomas of the thyroid studied by Warren, 34 showed evidence of invasion of blood vessels. Of these 34, 2 occurred in patients who died from multiple metastases. In the fatal cases the appearance was not any more suggestive of carcinoma than in the others. A guarded prognosis should be given in those cases of thyroid adenoma that show invasion of blood vessels.

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Journal of Lab. & Clinical Medicine, St. Louis

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Uniform System of Hematologic Methods for Use with Oxalated Venous Blood. E. E. Osgood, H. D. Haskins and F. E. Trotman, Portland, Ore.—p. 476.
Simplification of Osgood-Haskins Hemoglobin Method. E. E. Osgood, H. D. Haskins and F. T. Trotman, Portland, Ore.—p. 482.
Rapid Method for Determination of Sedimentation Rate of Red Cells: Results in Health and Disease. H. D. Haskins, F. E. Trotman, E. E. Osgood and A. Mathieu, Portland, Ore.—p. 487.
Reduction of Phosphomolybdic Acid by Monomethylparamidophenol and Use in Quantitative Determination of Phosphorus in Blood. S. L. Leiboff, New York.—p. 495.
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Graphic Method for Measuring Clotting Time of Blood. R. H. K. Foster, Chicago.—p. 505.
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Medical Journal and Record, New York

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Psychic Value of Music and Color in Infant and Child Nutrition. G. D. Scott, New York.—p. 161.
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*Temperature and Leukocyte Count in Disorders of Liver. M. E. Goebel and A. Kanof, Brooklyn.—p. 171.
Primer of Pneumonia Therapeutics. E. E. Cornwall, Brooklyn.—p. 175.
Use of Surgical Diathermy About Mouth of Eustachian Tube for Infection and Catarrh of Middle Ear. L. M. Hurd, New York.—p. 176.
End-Results of Rhinologic Surgery. G. D. Wolf, New York.—p. 178.
Schilling Index as Aid in Prognosis and Diagnosis of Complications in Pneumonia. S. H. Kohlman, Philadelphia.—p. 182.
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Diagnosis and Treatment of Bronchopulmonary Disease. M. Jacobs and L. Dodies, Philadelphia.—p. 187.
Practical Therapeutics: Hypodermic Technic. J. F. Bicak, New York. —p. 191.

Spinal Anesthesia.—Koster and Kasman report their observations on the use of sodium amytal as an adjunct to spinal anesthesia in 139 operations performed under spinal anesthesia with preliminary amytal preparation. During the administration the patient falls asleep. This effect is quite dramatic. Some patients attempt to avoid this effect but it is irresistible. If engaged in conversation, they will often fall asleep in the middle of a sentence after slight slurring of the preceding words. Patients with more highly sensitive nervous systems and those with high basal metabolic rates usually require more of the drug than others. There is no nausea, vomiting, laryngospasm or excitement before sleep ensues. As the injection continues, the sleep becomes more profound and snoring frequently follows. If the injection is made more rapidly a period of apnea may occur, during which the heart beat continues forcefully and regularly. With the apnea comes cyanosis of varying hue, dependent on the dosage. Even with slow injection of the solution, in larger doses cyanosis develops. With cyanosis, there is occasionally a prominent circumoral pallor. The pupils remain normal in size or become slightly constricted. If morphine is given previously, the pupils are always pinpoint. The gag reflex remains present. There is slight relaxation of the rectal and vesical sphincters. The knee jerks diminish and disappear finally. The corneal reflex becomes abolished as the dose increases. The skin reflex is practically never absent in an adult who receives 1 Gm. or less, but it may be markedly diminished. The respirations are usually decreased in amplitude but regular. The rate is slightly increased at first but then rapidly decreases until in one case it reached as low as twelve a minute. In another case Cheyne-Stokes breathing developed immediately after the injection of 1 Gm. of sodium amytal and lasted about five minutes, after which regular breathing followed. In a third case there was a period of complete cessation of respiration for three minutes during which artificial respiration was employed to maintain the interchange of gases. Then spontaneously respiration began. The pulse rate is usually slightly increased, seldom decreased, and often remains normal. It is a full, bounding pulse, always regular and never dicrotic. The blood pressure nearly always fall sfrom 5 to 30 mm. systolic and 5 to 20 mm. diastolic. In three cases there was an increase of 5 to 10 mm. systolic with no diastolic change. In patients with hypertension, the tendency toward a fall in the pressure is much more marked. This fall in pressure has no untoward effect and in no way contraindicates the use of spinal anesthesia as long as the patient is placed in the Trendelenburg position. The operation can be performed with all the advantages accruing from the use of spinal anesthesia and the employment of the sodium amytal.

Temperatures in Disorders of Liver.—Goebel and Kanof present a statistical study of 172 cases of liver conditions, their main interest being concerned with observations on temperature and leukocyte count. The cases are grouped as follows: primary carcinoma, 11; alcoholic cirrhosis, 52; syphilitic cirrhosis, 19; miscellaneous conditions, 41; catarrhal jaundice, 31; acute yellow atrophy, 6, and liver abscess, 12. In primary carcinoma 63.6 per cent of the temperatures were below 99.6 F. The remaining 36.4 per cent were above 100 F. The white blood cell count was from 6,500 to 22,600; 36.3 per cent were below 10,000. In alcoholic cirrhosis, 48.7 per cent had temperatures below 99.6 F.; 26.9 per cent had elevation of temperature which could be accounted for by complications; and 24.4 per cent had elevations of temperature that could not be accounted for. The leukocyte count ranged from 3,200 to 17,400. In eight cases it was not taken. In 72.7 per cent the count was below 10,000; the remaining percentage was above. In syphilitic cirrhosis 53 per cent had temperature below 99.6 F., 47 per cent above; the leukocytes in all nineteen cases ranged from 7.000 to 17,400; 83.3 per cent were below 10,000. In the miscellaneous group, the authors hesitated to draw any conclusions because of the many factors involved, which may have caused not only an increase in the number of leukocytes but also the elevation of temperature. Catarrhal jaundice showed 74.1 per cent of temperatures below 99.6 F.; 6.4 per cent had an elevation accounted for by complications; the remaining 19.5 per cent had temperatures above 100 F. unexplained. The leukocyte count ranged from 4,400 to 30,000. In 50 per cent the count was below 10,000; in a case of pneumonia, it was 30,000. Acute yellow atrophy showed 66.6 per cent of temperatures below 99.6 F. The leukocyte count of this series was from 4,500 to 19,200. One patient with liver abscess had a temperature of 99.2 F.; the other eleven, or 91.7 per cent, had temperatures that ranged from 99 to 106. The leukocyte count ranged from 5,400 to 49,000; in 91.7 per cent of the cases it was above 10,000.

Michigan State M. Soc. Journal, Grand Rapids

30: 123-254 (March) 1931

Achievements of Modern Medicine. B. R. Corbus, Grand Rapids.—p. 123.
Shall It be Radium or Surgery in Treatment of Uterine Fibroids? H. W. Hewitt, Detroit.—p. 129.
Bilateral Hysterical Mastoiditis. C. McClelland, Detroit.—p. 131.
The Hard of Hearing Child and the Deaf Child. E. Amberg, Detroit. —p. 135.
Progress in General Medicine. W. Northrup, Grand Rapids.—p. 139.
The Blind Spot and Its Pathologic Significance. R. J. Sisson, Detroit. —p. 142.
Serum Reactions. E. L. DeGowin, Ann Arbor.—p. 145.
Pyrifer in Treatment of Locomotor Ataxia. I. L. Polozker and I. M. Altshuler, Detroit.—p. 148.
Sinusitis in Children. S. E. Barnett, Detroit.—p. 150.
Intussusception of Bowel with Overshadowing Neurologic Symptoms: Fatal Termination with Autopsy. W. M. Donald and H. L. Perlis, Detroit.—p. 154.

Southern Medical Journal, Birmingham

24: 181-272 (March) 1931

Hemochromatosis: Case with Pathologic and Biochemical Studies. W. H. Higgins and F. P. Putts, Richmond, Va.—p. 181.
Animal Experiments in Operative Procedure for Fusion of Sacro-Iliac Joint. W. C. Campbell, Memphis, Tenn.—p. 186.
Traumatic Hemarthrosis of Knee Joint. C. C. Garr, Lexington, Ky. —p. 189.
Bone Changes Produced by Diseases of Hematopoietic System. J. W. Pierson, Baltimore.—p. 191.
Pseudomycosis Due to Micrococcus Myceticus. J. F. Hamilton, Memphis, Tenn.—p. 195.
Improvement in Management of Upper Abdominal Operations; Advantages of Anatomic Incision. A. O. Singleton, Galveston, Texas.—p. 200.
Uroselectan: Radiologic and Urologic Study. B. Lewis, G. Carroll and M. Schattyn, St. Louis.—p. 206.
Abruptio Placentae. C. W. Putney, Staunton, Va.—p. 210.
Occlusion Catheter Technic in Instrumental Urography. R. J. Holmes and M. M. Copeland, Miami, Fla.—p. 215.
Value of Bismuth Sodium Tartrate in Treatment of Urologic Conditions. C. W. Shropshire, Birmingham.—p. 218.
Cholesterol: Effect of Cholesterol Feeding in Anemia. M. J. Flipse and J. Matthieu, Miami, Fla.—p. 224.
Meningococcus Meningitis: Memphis Outbreak in 1930. G. J. Levy, Memphis, Tenn.—p. 232.
Tribromethanol as Anesthetic in Operations on Nose and Throat. E. A. Looper, Baltimore.—p. 238.
Tribromethanol as a Basal Anesthetic. J. A. York and R. J. Schork, Baltimore.—p. 244.
Spontaneous Hypoglycemia: Rôle of Diet in Etiology and Treatment. W. C. Waters, Jr., Atlanta, Ga.—p. 249.
Edema of Conjunctiva. E. W. Burton, University, Va.—p. 252.
Brown-Séquard (Guinea-Pig) Convulsions and Their Human Applications. L. B. Alford, St. Louis.—p. 256.
Adrenalin in Treatment of Contraction Ring. M. P. Rucker, Richmond, Va.—p. 258.
Fracture of Pelvis. H. M. Michel, Augusta, Ga.—p. 263.
Tendencies of Medical Education. W. L. Bierring, Des Moines, Iowa. —p. 265.

Texas State Journal of Medicine, Fort Worth

26: 695-770 (Feb.) 1931

*Spinal Anomalies. J. M. Martin, Dallas.—p. 702.
*Pathology of Chronic Radiodermatitis. J. C. Michael, Houston.—p. 710.
Coronary Occlusion, with Report of Cases and Necropsy Findings. J. E. Robinson, Temple.—p. 715.
*Case of Carcinoma of Nasopharynx. C. E. Ball, Fort Worth.—p. 719.
Arthritic Pelvis in Pregnancy. R. L. Grogan, Fort Worth.—p. 721.
Occipitoposterior Position: Method of Diagnosis and Technic for Delivery of Persistent Cases. W. W. Maxwell, San Antonio.—p. 724.
Occipitoposterior Position. J. W. McIver, Dallas.—p. 726.
Acute Lymphatic Leukemia with Primary Symptoms in Throat. F. H. Newton, Dallas.—p. 729.
Responsbility of Practitioner in Rendering First Aid in Ophthalmic Emergencies. J. M. Woodson, Temple.—p. 732.
Oral Radiographic Consultation. R. C. Curtis, Corsicana.—p. 734.
Roentgen-Ray Treatment of Original Foci of Infection in Chronic Gonorrhea in Male. B. J. Roberts and J. H. Smith, Lubbock.—p. 736.
Case of Sporotrichosis with Disseminate Skin Lesions and Bone Involvement. W. P. Brown and M. Owen, Fort Worth.—p. 739.
Diet and the Individual. R. M. Purdie, Houston.—p. 740.
Colds, Common and Uncommon. A. S. Garrett, Weatherford.—p. 744.

Spinal Anomalies.—Martin states that spinal anomalies and hypertrophic changes are found to occur in some degree in about 50 per cent of all spinal cases in which roentgen examination is used. Physicians who accept service as expert witnesses in cases in which damages are claimed as a result of spinal injuries should familiarize themselves with the subject of spinal anomalies, occupational changes and hypertrophic changes. In order to protect their interests against the malingerer and protect the health and interest of the laborer, all institutions employing labor should have roentgen examinations of the spines of their new workmen made as a preliminary procedure. Extreme care should be exercised in the study of spinal anomalies, because incomplete ribs, segments of vertebrae and ununited transverse processes have frequently been classified as fractures and dislocations. Spondylolisthesis, though relatively rare, is known to occur more often than was formerly believed. While usually the result of trauma, the condition may be caused by malformation in the articulations between the fifth lumbar vertebra and the sacrum, together with a change in posture, in which case the luxation is of slow development. Hypertrophic changes in the spinal vertebrae are the result of slow metabolic development and are seldom seen in roentgenograms of the spine of persons less than 40 years of age, and cannot with any degree of certainity be associated with trauma as a causative factor.

Chronic Radiodermatitis.—In a study of sections from six cases of radiodermatitis, Michael found that no tissue of the cutis escaped the injurious effects of the rays. Most profoundly affected, apparently, are the dermal appendages, as in all sections these structures had completely disappeared. The blood vessels are so markedly affected that a circulatory disturbance in the affected area is bound to follow. There can be no doubt that progressive endarteritis, by choking off the nourishment of the other constituents, causes degenerative changes in them and prevents any return to a normal state, even if that were possible. It is unlikely that the other tissues are, in a sense, secondarily involved in the pathologic alterations. It seems more probable that they are permanently altered by the ray. This change could well be a permanent physicochemical change in cellular metabolism. That this is so seems indicated by the fact that the atrophy of chronic radiodermatitis is always of the sclerous type.

Carcinoma of Nasopharynx.—According to Ball, carcinoma of the nasopharynx is more common than is generally believed, an early diagnosis being unusual on account of the multiplicity of extranasal symptoms. In a case observed by him the intracranial extension was through the foramen lacerum, with early involvement of the gasserian ganglion, and was in the form of a proliferation of tumor cells along nerve trunks rather than a large tumor mass. Early and complete surgical removal of these tumors is difficult, and combined radium and roentgen treatment offers the only hope of cure at the present time. In any cases of cranial nerve involvement a careful examination of the nasopharynx is highly important, since in this region small tumors produce early and rapid extension to the cranial nerves.

United States Vet. Bur. M. Bull., Washington, D. C.

7: 111-196 (Feb.) 1931

*Use of Uroselectan in Urography. R. S. E. Murray.—p. 111.
*Selection of Tuberculous Patients for Thoracoplasty. W. H. Thearle. —p. 117.
*Phrenicotomy in Nonapical Pulmonary Tuberculosis. A. G. Walker.—p. 124.
Rocky Mountain Spotted Fever: Four Cases. C. L. Magruder.—p. 127.
Malingering in Psychotic Patients. M. D. Clayton.—p. 129.
Clinical Aspects of Blood Pressure. F. B. Morrissey.—p. 133.
*Arterial Hypertension. E. S. Baker.—p 139.
Neuropsychiatric Observations. A. P. Smith.—p. 141.
*Influence of Intercurrent Diseases upon Psychoses. L. F. Wood.—p. 143.
Should Roentgen Ray Displace Physical Examination of Lungs? G. O. Bassett.—p. 146.
Tonsillectomy for Adult Patients. H. E. Mize.—p. 150.
Institutional Care in Catatonic Dementia Praecox. J. A. Robinson.—p. 152.
Value of Calisthenic Exercises for Psychotic Patients. E. H. Clark. —p. 154.
Importance of Ground Parole for Psychotic Patients. L. E. Scharf.—p. 156.
Discipline of Hospital Patients. H. C. Sharp.—p. 158.

Iopax in Urography.—Murray had iopax administered to him and records the sensations experienced. During the first two or three minutes there was only a slight burning sensation in the left arm; then an indescribable, violent sensation of muscle cramp was noted in the arm and hand. As the continuity of the injection was broken by the refill of the syringe, some relief was noted. At the same time a sense of uneasiness became manifest. As the injection continued this gave place to a feeling of great lassitude, which remained for two or three hours. With this feeling of malaise there was a sense of heat at the back of the head and over the left side of the face. The author became intensely thirsty and drank four glasses of cold water before his thirst was satiated. At the end of five or six hours he felt well but extremely tired. He noted that in reading print the letters were in constant motion. This cleared up within twenty-four hours. Distant vision remained unaffected. There was no increase in the pulse; nausea, headache or other ill effects were not noted.

Selection of Tuberculous Patients for Thoracoplasty.—Thearle states that thoracoplasty, in general, is adapted to those cases of chronic pulmonary tuberculosis which are usually associated with cavitation, when the involvement is unilateral and of a fibrocaseous type, and when artificial pneumothorax therapy has been unsuccessful or is not indicated. An ideal case for the procedure is the patient with early chronic tuberculosis who is in relatively good condition, is afebrile, has involvement of only one lung, which is exhibiting adequate natural resistance by its fibrous character, whose response to months of modern conservative therapy makes doubtful the prospect of ultimate cure therewith, and in whom pleural adhesions prevent satisfactory collapse of cavities by artificial pneumothorax. Such favorable conditions for operation have not been the rule in the author's experience. More commonly, the condition of the contralateral lung or of the heart has rendered the problem more perplexing. Unfortunately, the better lung is seldom found without some evidence of the disease, because of the advanced condition of patients usually presented for thoracoplasty; but operation should not be denied otherwise suitable cases when the lesion is limited and apical, and sufficient clinical observations with roentgenograms show that it is not progressive. On the other hand, the attitude must always be decidedly unfavorable to thoracoplasty when any activity is present in the opposite hilus or base, or when the lesion is in the exudative stage, even though entirely unilateral. Thoracoplasty is contraindicated when there is associated tuberculosis of the intestine, kidney, larynx (ulcerated stage), larger bones or joints, or Pott's disease, but is permissible when there is only moderate involvement of the larynx or peritoneum, in otherwise justifiable risks. Deserving of special mention among the serious diseases complicating tuberculosis that preclude thoracoplasty are chronic nephritis, diabetes, amyloid visceral disease which is the late protean manifestation of prolonged toxemia, the psychoses, and valvular heart disease. The age limit for surgical collapse is arbitrarily considered as from 15 to 45 years. The slight tendency to fibrosis in the young makes 18 years a much safer lower level. Six case reports are given.

Phrenicotomy in Nonapical Pulmonary Tuberculosis.—Walker reports two cases of pulmonary tuberculosis that illustrate the supreme importance for medical examiners to bear in mind that active tuberculosis may exist in a region in the lung where it cannot be diagnosticated by the methods of physical examination alone; that, when occurring in these regions, the disease has a greater tendency to unfavorable progression than if located above the clavicle; and that, in such cases, there is confronted the necessity for considering early surgical intervention in the form of phrenicotomy or artificial pneumothorax. The therapeutic conclusion to be drawn from these case histories is that surgical measures, especially phrenicotomy, should be instituted early in nonapical tuberculosis, unless there is definite evidence, from physical and roentgen examinations, that resolution is taking place in the involved lung area.

Arterial Hypertension.—For a diagnosis of essential hypertension, renal disease must be eliminated. This is done by Baker by: a test of the functional activity of the kidneys (phenolsulphonphthalein), before and after exercise; a chemical examination of the blood to determine nonprotein nitrogen and no increase of chlorides; a determination that there is no evidence of cardiac failure, which is made by blood pressure readings before and after exercise, to note whether a normal comeback of heart muscle is present; a determination that urinary albumin is absent or present only as a trace and that hyaline casts are few or absent (if only a trace of albumin is present or only a few casts, the urine should be tested from a sample taken after exercise), and a determination that the specific gravity of the urine is not too low (with a range from 1.000 to 1.005).

Influence of Intercurrent Diseases on Psychoses.—It appears to Wood that psychoses are influenced by intercurrent infections and, in his experience, often favorably influenced. Just how far the intruding infection will affect the psychosis depends not only on the relative severity and deeprootedness of the psychosis but also on the constitutional condition of the patient affected. If he is weak, with no resistance, the chances are that the result of the intercurrent infection will be disastrous. If, on the other hand, he is robust, with a strong constitution, the end-result will be more favorable, and one may expect anything from a slight improvement to complete remission in the psychosis.

Virginia Medical Monthly, Richmond

57: 775-836 (March) 1931

Treatment of Carcinoma of Cervix. W. Neill, Jr., Baltimore.—p. 775.
Encephalography in Diagnosis of Brain Lesions. J. G. Lyerly, Richmond.—p. 778.
Fractures of Pelvis. M. H. Todd, Norfolk.—p. 781.
Surgical Treatment of Pulmonary Tuberculosis. I. A. Bigger, Richmond.—p. 786.
Extract of Watermelon Seed in Treatment of Hypertension. B. P. Seward, Roanoke.—p. 788.
Fatal Emboli: Cases. O. T. Amory, Newport News.—p. 795.
Problem in Intestinal Surgery. J. A. Gannon, Washington, D. C.—p. 798.
Milk Protein Therapy in Eye Disease. W. H. Carter, Washington, D. C.—p. 801.
Siamese Twins. J. J. Mundell, Washington, D. C.—p. 803.
Enterococcus Peritonitis and Pleuritis. F. W. Shaw, Richmond.—p. 804.
Arachnidism: Two Cases. J. T. Vaughn, Ashland.—p. 806.
Cod Liver Oil: Its Vitamins and Those of Other Foods. J. C. Eckhardt, Washington, D. C.—p. 807.
Case of Unilateral Exophthalmos Following Thyroidectomy. J. P. Earnest and W. W. Sager, Washington, D. C.—p. 808.
Intravenous Urography. A. A. Creecy, Newport News.—p. 809.

West Virginia Medical Journal, Charleston

27: 97-144 (March) 1931

Use and Misuse of Roentgen Rays in Skin Diseases. H. T. Phillips and W. J. Morginson, Wheeling.—p. 97.
This Man—The General Practitioner. H. M. Hall, Wheeling.—p. 100.
Tularemia. R. D. Roller, Jr., Charleston.—p. 112.
Tularemia: First American Disease. F. E. Brammer, Dehue and Huntington.—p. 116.
Early Treatment of Pulmonary Tuberculosis. C. H. Maxwell, Morgantown.—p. 123.
"Curling's Ulcer." W. R. Laird and W. V. Wilkerson, Montgomery.—p. 128.
Use of Insulin in Nondiabetic Ulcers. B. I. Golden and W. M. Junkin, Elkins.—p. 130.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 337-382 (Feb. 28) 1931

Classification of Brain Tumors and Practical Application. W. Penfield.—p. 337.
Prevention of Tuberculosis in Children. F. M. McPhedran.—p. 342.
*Diverticula of Duodenum. S. G. Scott.—p. 346.
*Backache in Women: Treatment and Significance. C. L. Kark.—p. 348.
Septicemia and Encephalitis in Relation to Vaccination, R. Priest.—p. 349.

Diverticula of Duodenum.—While granting that diverticula may be present in large numbers in the colon without giving rise to symptoms, Scott thinks that those arising from any section of the duodenum eventually produce some form of abdominal disturbance or distress whether from direct or reflex causes, and in some cases this may even be of an acute nature, although more frequently it is encountered as a chronic condition (diverticulitis duodenale). He now includes a duodenal diverticulum in the list of undiagnosed causes of the condition known as "chronic abdomen," which is, in his experience, more often than not due to one of the following, placed in order of their frequency: (1) duodenal ileus, (2) splenic drag (incomplete enteroptosis), and (3) duodenal diverticulum. It will be realized, therefore, that diverticula, especially those arising in connection with the duodenum, have ceased to be only of academic interest and call for much more careful consideration and investigation than has hitherto been given them. The clinical diagnosis is practically impossible as the abdominal symptoms are so varied and at times closely resemble other pathologic lesions. In fact, most of the cases the author has had to investigate have been sent with the provisional diagnosis of gastric or duodenal ulcer, cholecystitis or appendicitis, practically the identical list of lesions that the symptoms in duodenal ileus suggest. The causes of symptoms are direct and reflex. As with an appendix, an acute or chronic infection or inflammation may occur. As a rule, however, these changes are only catarrhal, but in some cases suppuration, ulceration and even perforation are seen. It is a mistake to conclude that, because a diverticulum found by chance at a postmortem examination shows no evidence of inflammation, therefore it gave rise to no symptoms during life. Considerable abdominal distress, making the patient's life a misery, may result from its indirect effects. It is not essential for infection to be present to give rise to symptoms. A reflex resulting in spasm of the pylorus or forcible peristalsis of the duodenum, a form of duodenal ileus, may lead to definite attacks of pain and vomiting, often called "bilious attacks," and starting in childhood.

Backache in Women.—Kark states that in the treatment of backache the most essential factor is the provision of adequate support and rest. This problem is not so simple as it appears. The support must be adjusted to the exact degree demanded by the patient to afford relief and comfort. In other words, it must relax the strained spinal ligaments and the musculature. A support that is too strong or too weak will fail in its purpose. Rest in bed without an arch support is of little value and is often harmful, as most beds sag, the patient lying in a saucer-shaped hollow, with shoulders and feet well above the level of the lumbar arch, which becomes dorsiflexed. It is obvious that the degree of support will vary according to the patient's weight, the type of arch, and the attitude of the body; that is, the angle it makes with the horizontal at the point where the sacrum impinges on the bed. To fulfil these conditions a simple apparatus has been devised. The device consists of a rubber bag large enough to cover the lumbar arch, to which is connected a piece of rubber tubing sufficiently long to be brought round to the front of the patient. To the free end of the tubing is attached a valve and bulb, similar to that used on a sphygmomanometer. The rubber cushion is easily inflated to the required degree, the valve being used as a control. By its aid the back can be maintained in a constant state of relaxation and freedom from strain; only in this way can aching be effectively remedied. Generally speaking, faulty posture in bed produces not only much discomfort, backache, disturbed sleep and avoidable suffering but

other more serious effects. The typical patient propped up in the Fowler or sitting position has his back bent and lumbar arch flattened, with the result that the diaphragm is cramped and its function impaired. Consequently the patient ceases to breathe deeply, the lower lobes of the lungs are not ventilated satisfactorily and postoperative pulmonary complications are probable sequelae.

Glasgow Medical Journal

34: 49-104 (Feb.) 1931

*Treatment of Lobar Pneumonia with Felton's Serum. J. M. Cowan and A. W. Harrington.—p. 49.
Administration of Felton's Serum. J. Fleming.—p. 54.
Treatment of Lobar Pneumonia by Felton Serum: Serologic Typing of Pneumonia. R. Cruickshank.—p. 59.
Biochemical Aspects of Lobar Pneumonia. D. B. Cuthbertson.—p. 64.

Treatment of Lobar Pneumonia with Felton's Serum.—Cowan and Harrington have treated fifty-eight cases of pneumonia with Felton's serum. Six of the patients died, 10.3 per cent, as contrasted with a mortality of 18.4 per cent in their old series of 856 cases. The figures, however, are really more favorable. Felton's serum is effective with types I and II infections alone. It has no effect on the other infections. Grouping the types I and II infections together, one has forty-one cases with three deaths, a mortality of 7.3 per cent; of the other fourteen patients three died, a mortality of 21.4 per cent. It seems clear that lobar pneumonia, as recognized clinically, is due to a pneumococcal infection, and that more than half the cases are due to infection by type I or II. The occurrence of pneumonia in an adult is, the authors believe, an indication to use Felton's serum at once, and to continue its administration until the patient is better, or bacteriologic investigation shows that type I or II is not the causal organism in the particular case.

International Journal of Psycho-Analysis, London

12: 1-121 (Jan.) 1931

Problem of Paul Morphy: Contribution to Psychoanalysis of Chess. E. Jones.—p. 1.
Technic of Psychoanalysis. E. F. Sharpe.—p. 24.
Principle of Entropy and Death Instinct. S. Bernfeld and S. Feitelberg.—p. 61.
Comments on Bernfeld and Feitelberg's "Principle of Entropy and Death Instinct." R. O. Kapp.—p. 82.
Freud's Theory of Instinct and Other Psychobiologic Theories. L. S. Penrose.—p. 87.

Irish Journal of Medical Science, Dublin

6: 49-96 (Feb.) 1931

Ultraviolet Light, Roentgen Rays and Radium as Therapeutic Agents. P. MacCarvill.—p. 51.
Renal Rickets. W. I. de C. Wheeler and A. G. Thompson.—p. 71.
Recent Statistics of Rotunda Hospital. H. Jellett.—p. 77.
Treatment in Psychoneuroses. E. A. Bennet.—p. 85.

Journal of Neurology and Psychopathology, London

11: 193-288 (Jan.) 1931

Approach to Study of Hysteria. S. A. K. Wilson.—p. 193.
Pathology of Chronic Epidemic Encephalitis: Four Cases with Cerebral Lesions. R. Carmichael.—p. 207.
Problem of Social Adjustment. R. G. Gordon.—p. 239.
Value of Routine Examination of Cerebrospinal Fluid: Examination of 3,200 Fluids. N. McDiarmid—p. 247.

Journal of Physiology, London

71: 121-228 (Feb. 25) 1931

Potential Changes in Isolated Brain Stem of Goldfish. E. D. Adrian and F. J. J. Buytendijk.—p. 121.
Initial and Recovery Heat Production of Vertebrate Nerve. D. W. Bronk.—p. 136.
Relation of Temperature to Pulse Rate of Frog. J. Barcroft and J. J. Izquierdo.—p. 145.
Relation of Temperature to Heart Rate of South African Frog (Xenopus Dactylethra). N. B. Taylor.—p. 156.
Effect of Cocaine on Actions of Adrenalin and Tyramine. J. H. Burn and M. L. Tainter.—p. 169.
Sympathetic Innervation of Stomach: Effect of Stimulation of Periarterial Nerves on Stomach and Small Intestine. B. A. McSwiney and J. M. Robson.—p. 194.
Observations on Perfusion of Isolated Kidney by Pump. A. Hemingway.—p. 201.
Creatine and Phosphorus Content of Muscle. M. Brown and C. G. Imrie.—p. 214.
Influence of Creatine on Excretion of Phosphates by Kidney. M. Brown and C. G. Imrie.—p. 222.

Journal of State Medicine, London

39: 125-186 (March) 1931

Pneumonia: Use of Pneumococcus Vaccine in Treatment of Cases of Lobar Pneumonia. W. H. Park.—p. 125.
Importance of Complete Study of Nutritional Value of Milk. R. S. Williams and E. C. V. Mattick.—p. 141.
Outbreaks of Jamaica Ginger Paralysis in United States. E. E. Hume.—p. 157.
Postencephalitic Parkinsonism and Military Pensions. R. Cruchet.—p. 165.
Rat Menace. A. M. Hogarth.—p. 173.

Lancet, London

1: 393-450 (Feb. 21) 1931

* Use of B C G in Vaccination of Calves Against Tuberculosis. J. B. Buxton and A. S. Griffith.—p. 393.
*Dissecting Aneurysm of Aorta. E. A. Wood.—p. 402.
Rupture of Uterus. J. St. G. Wilson.—p. 404.
Case of Acute Thrombopenic Purpura Hemorrhagica Cured by Splenectomy. H. S. Le Marquand and J. Mills.—p. 405.
Acute Pancreatitis Following Lysol Poisoning. V. Dellal.—p. 407.
Fatal Case of Anthrax. A. L. K. Rankin.—p. 407.

B C G in Vaccination of Calves.—Fifty-one calves were vaccinated by Buxton and Griffith with B C G by various methods—ten by feeding, four intratracheally, three subcutaneously and thirty-four intravenously—and were subsequently tested as to their resistance to tuberculosis, together with fourteen untreated calves, by the intravenous injection of fully virulent bovine tubercle bacilli in doses ranging from 1 to 0.25 mg. of culture. All the sixty-five calves had been previously tested with tuberculin by the double intradermal test and had not reacted. Five control calves received each 1 mg. of bovine tubercle bacilli and died in from fifteen and one-half to twenty-seven days (average, twenty days) of acute miliary tuberculosis. Seven calves received each 0.25 mg. and died in from eighteen and one-half to twenty-seven days (average, twenty-four days) of general miliary tuberculosis. Two calves were inoculated with smaller doses—namely, 0.1 mg. and 0.05 mg., respectively—and died of severe general tuberculosis in thirty-nine and sixty days. Vaccinated calves were not given doses of less than 0.25 mg. It may be said, therefore, that they received at least from five to twenty times the dose necessary to cause fatal general tuberculosis in normal calves. The conclusion is drawn that the strain of B C G used throughout the experiments would appear to be avirulent for the calf and incapable of giving rise to progressive tuberculosis, even when inoculated intravenously in large doses. Whether given by the mouth or intratracheally, or by subcutaneous or intravenous injection, B C G can raise the resistance of a calf to a virulent experimental infection. An increase of resistance is less certain after feeding with B C G than after intravenous injection, though feeding with the vaccine may in some instances induce as high a resistance as injection into the tissues. Intravenous injection proved the most satisfactory method of vaccination with B C G. The degree of increased resistance conferred on calves by intravenous vaccination varies within wide limits and appears in general to be directly proportionate to the dose of B C G vaccine.

Dissecting Aneurysm of Aorta.—According to Wood, the clinical features of a dissecting aneurysm of the aorta, when the lesion is not immediately fatal, are not often of such a character that the diagnosis can be made. In a case that he reports, the signs and symptoms were so grouped together that the nature of the lesion might quite well have been suspected. The patient was suddenly struck down with acute pain between the shoulder blades and rapidly became unconscious, with the features of acute circulatory failure, as from a coronary thrombosis or a ruptured aneurysm. He then recovered consciousness for a little while and complained of "pins and needles" in the legs; there were, however, no physical signs to suggest that a ruptured aneurysm was compressing the spinal cord. The pulse remained persistently slow, about 56, throughout the seven hours during which he survived; this was tentatively ascribed to heart block, but it was assumed that the block had existed before the final catastrophe and was not related to it. Necropsy provided a single explanation of all the features. The sudden pain in the back and circulatory collapse were produced by a dissecting aneurysm at the upper end of the thoracic aorta, from which

blood had extravasated along the aorta as far as the heart wall, causing heart block, and down in the other direction at least as far as the beginning of the external iliac arteries, probably causing the peculiar sensations in the legs.

1: 451-508 (Feb. 28) 1931

*Treatment of Indolent Ulcer of Leg. A. D. Wright.—p. 457.
Impetigo in Schools. W. J. O'Donovan.—p. 461.
*Treatment of Ovarian Deficiency with Ovarian Extract (Estrin). H. Gardner-Hill and J. F. Smith.—p. 464.
*Asthma in Children Relieved by Intranasal Operation. J. Dundas-Grant.—p. 468.
Case of Agranulocytic Angina. L. P. Garrod and R. H. Williams.—p. 469.
Trauma and Renal Stone. E. Kendall.—p. 470.
Suppurative Arthritis Due to Hemophilic Bacillus. H. E. Mansell.—p. 471.

Indolent Ulcer of Leg.—Wright treats indolent ulcer of the leg as follows: 1. The patient on first attendance has a history taken with a view to finding the cause. It is surprising how many have a history dating from typhoid, pneumonia, an operation, or a fracture. The ulcer is then mensurated with a celluloid grid and the circumference of the leg is measured. 2. The uppermost varicose veins are injected with sodium morrhuate in 5 per cent solution. The veins are always injected from above downward because the lower part of the leg is a locus minoris resistentiae and any injection mistake is paid for in full. Deterred by an initial necrosis or severe reaction as a result of low injection, the inexperienced may abandon treatment and the patient may be left with his varicose veins and a chronic injection ulcer or indolent phlebitis. 3. The leg is then bandaged firmly and evenly over a longitudinal strip on both sides of the leg. When there is much edema the bandage must be put on hard with practically all one's strength. The tightness is proportional to the swelling and induration, but one should always err in respect of being on the tight side. No treatment of any kind is applied to the ulcer, and eczema and phlebitis or periphlebitis are no contraindication. If the ulcer is of the painful malleolar type (Corlette's ulcer) the crater is filled with acetylsalicylic acid powder blown in with an insufflator. This is a valuable local analgesic. A sleeping powder may be given for the first week of treatment to ease pain and allay worry, and this secures the patient's confidence. Such a radical change of treatment is often likely to be contrary to the patient's own ideas on ulcer management and to be met with some opposition at first. 4. The second visit is at a variable interval of from three days to a month, according to the size of the ulcer, the amount of edema and the position of the ulcer. If the ulcer is large and its discharge copious, the bandage becomes sodden and requires frequent changing. If the edema is great the bandage gets loose because of shrinkage of the leg and will require reapplication. If the ulcer is over the malleoli the movements loosen the bandage and it has to be renewed more frequently. Sometimes if there is a marked degree of edema an intravenous diuretic (mersalyl) is given. The patient on leaving is instructed to wash off the discharge with soap and a nail brush when it seeps through and put a dressing over the bandage. A free discharge must be regarded as beneficial. The patient is told to return to work, take plenty of walking exercise, and wear a long stocking or bandage over the adhesive to prevent it from being disturbed during sleep or in pulling on clothing. 5. At the second attendance the patient removes the bandage on arrival and wipes away the discharge with wet absorbent cotton. Again the veins are injected in the same order and, if the ulcer is large and a good sheet of granulations has developed, grafts can be inserted under the granulations on the fibrous bed of the ulcer. 6. Further attendances are at increasing intervals, and each time the visible and palpable veins are injected. Grafting may be repeated, and it is well always to have a graft waiting in the center of the last patch of ulcer to receive the edges as they close in; otherwise there is often an annoying delay at the last. 7. Finally, when the ulcer is cured and all veins have been obliterated, the patient is given an Unna's case or, better still, a Klebro resin bandage for three months to consolidate the cure. After this, permanent support may be required and this may take the form of a Klebro bandage renewed four times a year or an elastic stocking; of the latter, none is so effective as the Bourjeaurd. In seriously disorganized legs the support from any form of stocking is inadequate and firm Klebro, elastoplast or Unna bandages may have to be worn for some time. Patients are also seen every three months for injections and reconsideration as to renewal or abandonment of support. They are advised to wear boots instead of shoes and to cover every small abrasion with sticking plaster and to return if there is any recurrence.

Estrin in Ovarian Deficiency.—The results of treating sixty-three women with ovarian deficiency—amenorrhea of various types—with an accurately standardized estrin preparation are described by Gardner-Hill and Smith. In primary amenorrhea the results were negative. In primary menstrual irregularity, menstruation was regularized in six out of nineteen cases. In secondary amenorrhea, positive results were obtained in twenty out of thirty-seven cases (54 per cent). In twelve of the successfully treated patients the subsequent rhythm of menstruation was normal without any further treatment. In two of these patients, who were sterile, pregnancy subsequently occurred.

Asthma in Children: Intranasal Operation.—In a series of cases of children referred to Dundas-Grant by physicians, as suffering from asthma, there were eighteen in whom there were intranasal abnormalities and in only one of these did removal of the hypertrophic portions of the middle turbinals fail to procure some measure of relief. This patient was not seen again after the partial resection of the left middle turbinal. Moreover, there was a deflection of the septum which he had left to be dealt with later, if necessary.

Medical Journal of Australia, Sydney

1: 125-156 (Jan. 31) 1931

Study of Medicine. C. G. Lambie.—p. 125.
Recent Advances in Treatment of Pulmonary Disease. N. Davis.—p. 133.
Value of Roentgen Rays in Pregnancy. H. R. Sear.—p. 137.
Congenital Malformations of Heart and Great Vessels: Two Cases.—p. 138.

1: 157-186 (Feb. 7) 1931

Local Anesthesia in General Surgery. C. E. Corlette.—p. 157.
Medical Clinics in London and Vienna. F. J. Niall.—p. 167.

1: 187-218 (Feb. 14) 1931

Medical Evidence. Perdriau.—p. 188.
Selection of an Anesthetic. L. Doyle.—p. 194.

Practitioner, London

126: 289-383 (March) 1931

Nephritis: New Ideas and Old Facts. T. Horder.—p. 289.
Treatment of Nephritis. T. I. Bennett.—p. 296.
Pyelography, Old and New. A. E. Roche.—p. 312.
Practical Points in Urologic Investigations. H. P. Winsbury-White.—p. 324.
Value of Intravenous Urography. K. Heritage.—p. 343.
Lobar Pneumonia and Treatment. A. Abrahams.—p. 349.
Village Settlements for Tuberculous. P. C. Varrier-Jones.—p. 359.
Enthusiams in Child Welfare. E. A. Barton.—p. 369.

Japanese J. of Obstetrics & Gynecology, Kyoto

13: 578-642 (Dec.) 1930

Effect of Stimulation of Vegetative Nerve System on Transplanted Tumors. T. Kumamoto.—p. 578.
*Hematologic Investigation of Anemia in Pregnancy. Y. Suwa.—p. 583.
Radiosensibility of Malign Tumors. K. Ihdima.—p. 597.
Tar Cancer and Endocrine Function. M. Oike.—p. 622.

Anemia in Pregnancy.—According to Suwa, the placenta contains a substance possessing a hematoxic action, presumably a hemolytic substance, which is not albumin and soluble in water and in alcohol. When this is injected into rabbits, the hemoglobin content and the number of erythrocytes decrease and the function of the hematopoietic organs is generally accelerated, the blood figure and the hematopoietic figure presented being similar to those in pregnancy. Therefore the placenta, in his belief, has the most important causal relation in the case of anemia in pregnancy, and the perniciosiform anemia of pregnancy is produced when to this are added constitutional abnormality, anemic anamnesis and unhealthy life; also other anemic diseases, as syphilis, can be said to conduce to this kind of anemia.

Annales des Maladies Vénériennes, Paris

26: 1-80 (Jan.) 1931

Association of Male Genital Disturbances with Chronic Gonorrheal Urethritis and Prostatovesiculitis. B. Valverde.—p. 1.
*Gonorrheal and Nongonorrheal Urethritis. G. Franck.—p. 20.

Gonorrheal and Nongonorrheal Urethritis.—After observation of 280 cases of urethritis, Franck formulates the following conclusions based on these cases and on previous research: 1. While the gonococcus is the pathogenic micro-organism of gonorrhea, it is perhaps not the sole agent of the condition. 2. It is possible that other so-called nongonococcic urethritides are caused by the gonococcus, since under certain conditions it can probably take on entirely different characteristics than those usually attributed to it. 3. There are undoubtedly carriers of saprophytic gonococci. 4. Most of the male patients with gonorrhea do not suffer pain from the infection; it is the suppuration that causes them to consult a physician. 5. Most women with gonorrhea do not realize that the infection is present unless complications develop. 6. A medical certificate attesting that a woman is free from gonorrhea means almost nothing, for it is often impossible to detect gonorrhea in women who are in reality dangerous sources of infection. 7. At the present time there is no reaction for gonorrhea analogous to the Wassermann reaction for syphilis; when one finds gonococci in a patient suspected of having gonorrhea a diagnosis of gonorrhea is certain, but failure to detect gonococci does not necessarily mean absence of gonorrhea. 8. Patients suspected of having gonorrhea, even though they present neither clinical nor bacteriologic symptoms, should be treated, or at least kept under careful observation for several months.

Gynécologie et Obstétrique, Paris

22: 481-580 (Dec.) 1930

*Comparative Microscopic Study of So-Called Albuminuric and Syphilitic Placentas and of Normal Placentas. M. Rivière.—p. 481.
Pathogenesis of Rectovaginal Fistulas. J. Adeodato.—p. 526.

So-Called Albuminuric and Syphilitic Placentas.—Rivière made a microscopic study of sixteen placentas from women with symptoms of gravidic intoxication with albuminuria, of twelve placentas from syphilitic women, and of nine placentas from patients seemingly normal. He observed that lesions of the epiblast and of the connective tissue-vascular axis and necrosis of the villi not only occurred with striking similarity in the so-called albuminuric and syphilitic placentas but also were found in normal placentas. He concludes, therefore that these modifications cannot be considered as specific lesions, which permit a differential etiologic diagnosis. They are caused by the presence of poisons in circulation in the maternal blood, poisons which may be either pathologic, as in gravidic intoxication or syphilitic toxi-infection, or physiologic, resulting in the normal senescence of the placenta.

Journal de Chirurgie, Paris

37: 1-160 (Jan.) 1931

*Exeresis of Cancers of Colon Complicated by Large Abscess Surrounding Tumor. J. Charrier and R. Leibovici.—p. 1.
Ligation of Gluteal Artery on Cadaver and in Life. P. Huard and M. Montagne.—p. 27.

Exeresis of Cancers of Colon Complicated by Large Abscess Surrounding Tumor.—Charrier and Leibovici report two cases of cancer of the colon complicated by a large abscess surrounding the tumor and discuss seventeen similar cases, which they have found in the literature. From this study they draw the following conclusions: A cancer of the colon complicated by a large abscess surrounding the tumor is not necessarily an inextirpable cancer. The suppuration may be a complication as early and revelatory as acute occlusion. A colonic cancer is an infected cancer, which can soon cause the development of an abscess in the peritoneum, in the retroperitoneal tissue or in the mesocolon. During the period of suppuration it is impossible to judge of the extent and operability of the cancer because the abscess increases tenfold the adhesions and the volume of the tumor. When the abscess has been drained and the colon put in a state of repose for a few weeks it is wise to verify again the condition of the primary neoplasm; in many cases a secondary exeresis will then be possible. With an abscessed cancer of the colon three methods are possible, according to whether the resection is immediate, early or delayed. Immediate resection is not to be recommended, since operation with the inflammation at its height is dangerous and requires the removal of a greater amount of the tissues than the actual volume of the tumor justifies. Early resection, after several days of exteriorization, is possible with the sigmoid colon when the abscess is not too large and when the tumor can be brought outside without the extensive separation of adhesions. The method of choice, however, is delayed resection. The first step is to drain the abscess and establish a cecal anus. This derivation puts the colon in a state of repose and often permits the complete cicatrization of the abscess in a few weeks; sometimes a fistula remains. Two or three months later, when the patient has somewhat recuperated and the inflammation has been reduced, a second intervention may be made to remove the cancer.

Presse Médicale, Paris

39: 113-128 (Jan. 24) 1931

*Rôle of Epilation by Tweezers in Dermatology. R. Sabouraud.—p. 113.
Tetanus: Serotherapy Under General Anesthesia. R. le Clerc.—p. 115.
Digestive Disorders from Ingestion of Uncooked Starch, Especially Bananas. R. Goiffon.—p. 116.

Epilation by Tweezers in Dermatology.—Sabouraud deplores the abandoning of the art of epilation by tweezers. This method of removing hair can never be entirely superseded by the use of roentgen rays. An application of rays is almost certain to leave a few scattered hairs in the scalp, which must be removed if the therapeutic effect is to be permanent. Moreover, many forms of tinea and other skin diseases require two or more depilations to effect a cure; and even a second application of roentgen rays may be dangerous, while a third is sure to be harmful. Many of the unsatisfactory results secured in the treatment of such skin diseases are due to the incomplete effects of the roentgen treatment, which could be admirably complemented by epilation with tweezers if hospitals and clinics had skilled epilators on their staff.

39: 161-184 (Feb. 4) 1931

Latent Deficiencies in Young Children. L. Ribadeau-Dumas.—p. 161.
Symptoms of Intrapetrous Foci of Infection in Course of Acute Otitis. J. Ramadier.—p. 165.
*Bacteriophage Treatment. P. Hauduroy.—p. 168.
Mechanism of Bradycardia in Typhoid. T. Dumitresco and S. Chiser.—p. 171.

Bacteriophage Treatment.—Hauduroy gives a discussion of the indications and method of application, both general and specific, of bacteriophage treatment. He points out first of all the necessity of using a well prepared bacteriophage, since incorrect technic produces not only a useless medicament but one that is often dangerous and even fatal to the patient. Moreover, the bacteriophage used must be specifically lytic of the micro-organism causing the infection. Although it is not always possible to prepare the bacteriophage from bacteria secured from the patient a test in vitro should always be made to determine the efficacy of the bacteriophage. The bacteriophage should usually be given in three or four subcutaneous injections of 2 or 3 cc. each, at intervals of twenty-four hours. Five injections is the maximum that should be given to a patient under any conditions. Subcutaneous injections generally produce only slight local reactions and never cause general reactions. The injections should never be given in inflamed or painful tissues, since the results are no better, if as good, and the injections cause the patient unnecessary pain. Along with the injections, the bacteriophage should be applied in local dressings, adapted to the localization and form of the lesions. Intravenous injections should never be used; they have little therapeutic effect and cause dangerous shock reactions. The only types of infections in which the efficacy of bacteriophage treatment has been established are staphylococcal and colibacillary. Bacteriophage therapy is successful in all superficial or deep staphylococcal infections (provided the isolated micro-organism yields to the bacteriophage used) except staphylococcal septicemias. The resistance of the latter may be due to the fact that the treatment is usually necessarily given too late to be of value. The author has observed through his own experience and examination of the literature that about 75 per cent of cases of staphylococcal infection may be cured by bacteriophage treatment. The reasons for the failure in some

cases are obscure, undoubtedly owing in a great part to the "unknowns" of the physiopathologic conditions of the patient. In some cases in which bacteriophage therapy alone was of no avail the author used with it an autovaccine, with good results. In colibacillary infections one should make sure that the bacteriophage used is lytic of the isolated bacillus and that the infection is a pure colibacilluria, since many colibacillary conditions present complications that render the treatment useless.

Schweizerische medizinische Wochenschrift, Basel

61: 121-144 (Feb. 7) 1931. Partial Index

Clinical Aspects of Scarlet Fever. R. Massini.—p. 121.
Pathobiologic Objections to Calmette's Vaccination. A. Greil.—p. 127.
*Phrenic Exeresis. F. Oeri.—p. 131.
Treatment of Eczematoid Skin Lesions by Means of Atoquinol. E. A. Meier.—p. 136.
Treatment of So-Called Essential Asthma. A. Dudan.—p. 137.

Phrenic Exeresis.—Following a discussion of the various forms of collapse therapy, Oeri reports his own experiences with phrenic exeresis in sixty-seven cases. He considers phrenic exeresis as the method of choice in patients in whom only the lower lobes of the lungs have tuberculous processes. In these cases the results are favorable; however, these cases are comparatively rare. Phrenic exeresis may also be resorted to in cases of pneumothorax when the pleural cavity is entirely obliterated. Phrenic exeresis has the advantage that it necessitates only one surgical intervention whereas the pneumothorax has to be reinduced from time to time. But the phrenic exeresis is less reliable and causes permanent changes the extent of which cannot be foreseen. Therefore exeresis should not entirely replace pneumothorax. But if the pleural cavity is entirely obliterated, phrenic exeresis should be tried before thoracoplasty. Phrenic exeresis can also be resorted to when the pnemothorax remains incomplete, when the thoracoplasty has not effected a complete collapse, and in some patients with bilateral processes in whom a less radical collapse therapy seems advisable.

Clinica Chirurgica, Milan

33: 1375-1501 (Dec.) 1930

Fractures of Posterior Eminence of Astragalus and Os Trigonum. G. Rotolo.—p. 1375.
Variations in Form and Motility of Stomach as Result of Resection of Lesser Curvature. M. Gianotti and F. Stoppani.—p. 1406.
*Experimental Researches on Means of Preventing Bone Regeneration After Subperiosteal Rib Resection. L. Torraca.—p. 1433.

Research on Preventing Bone Regeneration After Subperiosteal Rib Resection.—Torraca concludes from his experimental researches on dogs and rabbits that with heat (thermocautery), cauterization (phenol) and fixation (formaldehyde), applied to the inner layer of the periosteum, it is possible to prevent bone regeneration after rib resection. But with silver nitrate it is impossible to prevent the formation of new bone. While caustic and fixing fluids may, under ordinary circumstances, be applied without danger, it should be borne in mind that direct contact with fixing and caustic solutions subjects the pleura to the danger of perforation and to the consequent formation of a pyopneumothorax. Even in using the thermocautery there is a danger of perforating the pleura; but here such an accident is not such a menace, because the lesion can be immediately sutured. Not only heat but also chemical measures may give rise to pleural reactions and possibly to pulmonary adhesions. The greater reactions are caused by the thermocautery and phenol. Formaldehyde, however, caused no pleural reactions, so that it may be considered as the most harmless means of preventing regeneration of the periosteum.

Clinica Medica Italiana, Milan

62: 1-96 (Jan.) 1931

Mycosis of Respiratory Apparatus: Initial Stage. L. Lazzarini.—p. 3.
*Semeiologic Significance of Passive Mobility of Apexes in Early Diagnosis of Pulmonary Tuberculosis. E. Sanfilippo.—p. 13.
Hepatobronchial and Bronchobiliary Fistulas Following Amebic Colliquative Hepatitis. L. Cannavó.—p. 21.
*Duodenal Ulcer: Clinical Considerations. W. Melocchi.—p. 37.
Disturbances of Cardiac Rhythm of Leukemic Origin. E. Antoniazzi.—p. 53.
Familial Recklinghausen's Disease. P. Gerli.—p. 67.

Passive Mobility of Apexes in Early Diagnosis of Pulmonary Tuberculosis.—Sanfilippo studied, for the early diagnosis of pulmonary tuberculosis, the various maneuvers proposed by Koranyi and Picchini. He applied the two methods to many normal persons and to 150 patients with pulmonary tuberculosis, presenting exudative, fibrous and mixed lesions, and later to patients with emphysema and pulmonary abscesses. He found these methods an aid in the physical examination of the thorax. They present advantages over other methods for the early diagnosis of apical tuberculosis. It would, however, be an exaggeration to attribute to these methods an absolute value, since the indications may be found also in nonapical pulmonary disorders and in nonspecific conditions (emphysema, abscesses).

Duodenal Ulcer: Clinical Considerations.—Melocchi summarizes briefly the principal and the more recent theories advanced to explain the pathogenesis of duodenal ulcer. Utilizing thirty-five clinical histories of ulcer patients, he evaluates the etiologic data, the clinical course of the disorder and the therapeutic procedures employed. As regards the laboratory observations, these have diagnostic value only in case they are positive and accord with other symptoms (except the roentgen demonstration of a filling defect, which is pathognomonic). As for treatment, it is chiefly dietetic, together with body rest. With respect to the outcome, in the observed cases, it was usually favorable, with clinical recovery from the lesion.

Policlinico, Rome

38: 111-146 (Jan. 26) 1931. Practical Section

Complete Spontaneous Rupture of Uterus in Labor: Vesico-Uterine Fistula: Recovery. D. Clemente.—p. 111.
Uterine and Intestinal Perforation Due to Abortive Maneuvers: Hysterectomy: Enterectomy: Recovery. G. Simoncelli.—p. 117.
*Congestion and Mammary Hypersecretion Toward End of Pregnancy as Symptom of Death of Fetus. D. Palieri.—p. 118.

Mammary Hypersecretion Toward End of Pregnancy as Symptom of Death of Fetus.—Palieri reports three cases that show that painful mammary glands with exudation of colostrum is an indication of the death of the fetus. The author thinks that the same cause that produces a chill in the mother on the intra-uterine death of the fetus is the origin of the mammary hypersecretion and the congestion of the breast.

38: 147-182 (Feb. 2) 1931. Practical Section

*Retinal Hemorrhages Due to Essential Hypertension. V. Gualdi.—p. 147.
Hemorrhagic Syndrome in Acute Malarial Infection in Spring. D. Ceccarelli.—p. 150.
Naphthalene in Treatment of Intestinal Lambliasis. G. Sorge.—p. 156.

Retinal Hemorrhages Due to Essential Hypertension.—Gualdi, by his clinical, etiologic and pathogenic researches on five cases of essential hypertension associated with retinal hemorrhages, and by his studies on their course, aided by systematic measurements of the arterial pressure, which enabled him to obtain precise sphygmomanometric graphs over a long period, during which he made also a trial of rational hypotensive treatment with fairly satisfactory results, has made a contribution to the etiology, pathogenesis and treatment of essential hypertension with especial reference to its manifestations in the eye.

Riforma Medica, Naples

47: 41-80 (Jan. 12) 1931

So-Called Genocutireaction in Neurasthenic, Traumatic and Epileptic Psychoneuroses, and Its Practical Value. C. Ceni.—p. 43.
Mulder's Test in Nephropathies and in Other Diseases. L. Beltrametti.—p. 45.
*Symptomatic Endotheliosis in a Case of Purpura Associated with Pulmonary Tuberculosis. F. Alessio.—p. 48.

Purpura Associated with Pulmonary Tuberculosis.—Alessio describes a case of chronic hemorrhagic purpura, of the Schönlein-Henoch type, observed in a person with pulmonary tuberculosis who had had similar symptoms twice before over a period of ten years. The patient, a woman aged 45, presented, in addition to repeated hemorrhagic manifestations of the skin and gums, transient attacks of edema of the face, together with urticaria and coryza. The appearance of manifestations of hemorrhagic purpura associated with pulmonary tuberculosis confirms the views of Schupfer and his school that hemorrhagic purpura often develops on a tuberculous terrain.

47: 81-120 (Jan. 19) 1931

Clinical Researches on Chlorophyll. A. Lorenzi.—p. 83.
*Congenital Megacolon. M. Ronzini.—p. 86.
Case of Agranulocytosis. L. Zucchi.—p. 93.

Congenital Megacolon.—Ronzini reports a case of congenital megacolon, which had manifested itself since birth in a girl, aged 3, operated on by total colectomy. Examination of the piece removed revealed that all the elements (muscular, nervous, connective tissue and glandular) were normally represented. Hence he rejects the various theories of aplasia of the muscular, nervous, elastic-tissue and similar elements. With an opaque clysma, however, a mechanical obstruction at the junction of the colon and sigmoid could be clearly demonstrated—caused, it would seem, by the weight of the ectatic and ptotic descending colon on the underlying sigmoid, which was exceedingly long and flexed. Such an arrangement, however, was not found at operation. Hence the author inclines to the conception of Konjetzny according to which the viscera on the abdomen, being opened, are suddenly exteriorized and thus lose their habitual relationships to one another. Basing his opinion on the three cardinal anatomic features of congenital megacolon—elongation, dilatation and hypertrophy—the author supports the idea of a mixed pathogenesis in the sense of an embryonal defect determining the elongation and dilatation and the exaggerated inflection of the colonsigmoid angle, and in the sense of an acquired muscular hypertrophy resulting from an endeavor to overcome the mechanical obstruction.

Rivista di Clinica Pediatrica, Florence

29: 1-88 (Jan.) 1931

*Antidiphtheria Vaccination of Tuberculous Children. Mafalda Pavia.—p. 1.
Examination by Means of a Duodenal Sound of Activity of Pancreatic Ferments in Infant. A. Venuti.—p. 17.

Antidiphtheria Vaccination of Tuberculous Children.—Mafalda Pavia discusses the concomitance of diphtheria and tuberculosis in several clinical cases personally observed. She reports the excellent results secured from antidiphtheria vaccination of tuberculous persons, both in latent tuberculosis and in the presence of manifest lesions. The procedure followed consisted of subcutaneous injections of Ramon toxoid (Schick and Zoeller tests before the punctures). The Schick test repeated after the complete vaccination and the absolute absence of harmful reactions lead to the conclusion that tuberculous persons are usually susceptible to an active antidiphtheria immunization, and that far from being contraindicated in the tuberculous, even in the presence of active and extensive lesions, vaccination is necessary when the tuberculous children are living in a community.

Archivos Españoles de Pediatría, Madrid

14: 641-704 (Nov.) 1930

*Parke's Syndrome (Epidemic Acidosis) in Child. J. A. Alonso Muñoyerro and E. Jaso.—p. 641.
Factors Which Modify Racial Type: Syphilis and Tuberculosis. F. Cirajas.—p. 654.
Intestinal Lambliasis in Child: Case. M. Laffón.—p. 668.

Parke's Syndrome (Epidemic Acidosis) in Child.—Alonso Muñoyerro and Jaso's patient, a boy, aged 4, had an inherited tendency to hepatic insufficiency. A brother of the patient had typical crises of acetonemic vomiting. The patient developed an attack of influenza with fever of about 100.4 F., somnolence, disturbances of the respiratory rhythm (Biot's respiration), marked cyanosis, rapid enlargement of the liver and crises of acetonemic vomiting. He had acetone on his breath. The negative results of the examination of the cerebrospinal fluid excluded meningitis. The presence of typhoid, encephalitis, uremia or a condition of diabetic coma was also excluded. It was proved to be a depressive form of infantile epidemic acidosis with acetonemic vomiting, the so-called Parke's syndrome. Their case, though in general in perfect agreement with the description given of the syndrome, had some special characteristics, which were the presence of glycosuria and the type of respiration with persistent cyanosis. As the most plausible theory of the mechanism of the type of respiration and cyanosis, the authors admit a diminution of the excitability of the respiratory center. They believe that acidosis leads to somnolence, which at the same time is a manifestation of a diminution of the excitability of the respiratory center caused by a functional deficit of the cortex of the brain. The authors present some theories on the rôle that the hepatic insufficiency may have played in their case on the development of the syndrome. They consider the rapid enlargement of the liver as a manifestation of an overcharge of fats in the liver, which they state is a constant occurrence in cases of fatal acetonemic vomiting, as they have proved at necropsy. The several treatments heretofore recommended for this special type of infantile acidosis with acetonemic vomiting are of no value: small doses of alkalis are insufficient, large doses are harmful; the oral, rectal or hypodermic administration of dextrose solutions and the administration of juices of fruits, give unsatisfactory results. The administration of insulin causes harmful effects. In the authors' patient all the treatments mentioned failed. The administration of insulin was followed by a rise in the patient's temperature and by increase of the apnea. The patient died fourteen days after the beginning of the disease.

Semana Médica, Buenos Aires

38: 197-264 (Jan. 22) 1931. Partial Index

Etiology, Pathogenesis and Treatment of Scoliosis: Forty Cases. S. Satanowsky.—p. 197.
*Visceral Lesions in Acute Generalized Peritonitis of Appendicular Origin. D. Brachetto-Brian.—p. 240.
Red Myoma in Pregnancy: Case. A. J. Pavlovsky, J. de Filippi and E. L. Ottolenghi.—p. 243.
Retention of Urine Caused by Retroflexoversion of Pregnant Uterus with Fibromyoma: Case. L. Razetti.—p. 245.
Comparison of Kahn and Karmin Reactions for Diagnosis of Syphilis. F. Kopatschek.—p. 246.
Extra-Uterine Pregnancy: Frequency in Tucumán, Argentina. C. Pasquini López.—p. 249.

Visceral Lesions in Acute Generalized Peritonitis of Appendicular Origin.—Brachetto-Brian made anatomic and pathologic studies of the rôle that the lesions of the viscera, observed in acute generalized peritonitis of an appendicular origin, play in the death of the patients. From his twenty-two observations the author reaches the following conclusions: In patients with acute generalized peritonitis of an appendicular origin the liver and the kidneys contain degenerative lesions of an advanced type in 100 per cent of the cases. The heart also contains degenerative lesions in about 33 per cent of the cases. The lesions in the heart, however, seem to be in relation with the pulmonary complications which the patients exhibit, rather than with the peritoneal condition. Pulmonary lesions of a grave inflammatory type are present in 20 per cent of the cases. Pulmonary disturbances of a circulatory type are present in 50 per cent of the cases. In most cases there is total or partial disappearance of the fatty substances in the cortex of the suprarenals. The author believes that the lesions of the viscera are the ones which cause the death of the patients. Since the beginning of the disease, the clinical and anatomic syndrome caused by the lesions of the peritoneal serosa is associated with another anatomic and clinical syndrome of a toxic or toxic-infectious nature caused by the alterations of the viscera. A detailed criticism of the treatment of acute general peritonitis is given. The results of both surgical treatment (followed by drainage) and medical treatment are considered disappointing. The author suggests that in a future congress of surgery the chief topic should be "studies on the pathologic anatomy and physiology of acute generalized peritonitis of an appendicular origin," and on the pathogenesis and treatment of the condition.

Deutsche medizinische Wochenschrift, Berlin

57: 175-218 (Jan. 30) 1931. Partial Index

What is "Trauma?" H. Burckhardt.—p. 175.
Nature of Sympathetic Disturbances, Significance of So-Called Salt-Free Diet, Cation Relation and Points of View for Rational Methods of Nutrition. E. Keining and G. Hopf.—p. 181.
*Diagnosis and Therapy of Cancer of Larynx. Hesse.—p. 185.
Vaccination Therapy of Whooping Cough. E. Stettner.—p. 190.
Blood Transfusions in Treatment of Grave Colitis. H. Strauss.—p. 192.

Diagnosis and Therapy of Cancer of Larynx.—Hesse states that the tumors of the larynx are almost never sarcoma but nearly always carcinoma; namely, either squamous cell epithelioma or basal cell carcinoma. He further discusses the

various locations of the tumors. In discussing the diagnosis he describes the symptomatology, especially the early symptoms, which differ according to the location of the tumor. In carcinoma on the labium vocale, hoarseness is usually an early symptom, whereas tumors in the arytenoid region or in the epiglottic region cause difficulties in swallowing, and, in tumors that involve the pharynx, laryngologic examination frequently reveals frothy salivary secretion in the pyriform sinus. Dyspnea generally becomes manifest only in the later stages of the disease. To make a definite diagnosis, an exploratory excision should be made. In case of small growths, especially those on the vocal cords, the diseased tissue can sometimes be entirely removed by the exploratory excision. Electrocoagulation has also been recommended for the treatment of such small tumors. The author further discusses laryngofissure following tracheotomy. He asserts that laryngofissure or thyreotomy usually effects freedom from relapses, provided the operation is performed during the early stages. In the advanced stages, total extirpation is generally necessary. In rare cases hemilaryngectomy is performed. For inoperable cases, roentgen treatment or radium irradiation is recommended. The author discusses also the postoperative treatment.

Klinische Wochenschrift, Berlin

10: 145-192 (Jan. 24) 1931

Paratyphoid Problem. K. L. Pesch.—p. 145. C'td.
*Occurrence of Smallest Quantities of Mercury in Urine and in Feces: Diagnostic Evaluation and Causes. P. Borinski.—p. 149.
Activating Split Products and Tissue Hormones. W. Weichardt.—p. 153.
*"Uremia" Resulting from Prolonged Vomiting. P. Meyer.—p. 155.
Color of Urine in Diffuse Hematogenic Diseases of Kidneys. E. Becher.—p. 157.
Specific Gravity of Blood and of Its Constituents. C. Oestreich.—p. 160.
Circumscribed Action of Hormones, Especially of Solution of Pituitary on Water Exchange. A. Kiss.—p. 162.
Fermentative Decomposition of Guanine Nucleus by Ferments of Liver of Rabbit. G. Schmidt.—p. 165.
Craniofacial Dysostosis. R. Hirschfeld and P. Hirsch-Mamroth.—p. 167.
Rare Disorders Following Excessive Use of Tobacco. A. Lippmann.—p. 169.

Diagnostic Evaluation and Causes of Smallest Quantities of Mercury in Urine and in Feces.—Stock's article on the injurious effects of minute quantities of mercury, and especially of the dangers of dental amalgam, induced Borinski to examine the feces and urine of a large number of persons for the presence of mercury. The tests were made (1) on eighty-three persons whose occupation brought them in contact with mercury, (2) on ninety-three persons who had amalgam fillings for less than three months, (3) on 160 persons who had had amalgam fillings for longer periods, and (4) on seventy-five persons who had never come in contact with mercury. A tabular report indicates that all the persons belonging to the first two groups eliminated mercury. Of those belonging to the third group 93 per cent eliminated mercury, and of the fourth group over 50 per cent eliminated mercury. The daily quantity which was eliminated by this last group was in most cases up to 5 γ and in some instances up to 10 γ. The same quantities also were found in persons who had had amalgam fillings for a considerable time. However, persons with new amalgam fillings, and those who came in contact with mercury during their work, eliminated larger quantities. Tests on the most important foods revealed that nearly all foods contain minute quantities of mercury. It was calculated that the average daily amount which is ingested with the food is about 5 γ. This corresponds to the quantity that is eliminated by persons who either do not come in contact with mercury or who have had amalgam fillings for a long time. From these observations the author concludes that a daily elimination of mercury of from 5 to 10 γ may be considered as normal and does not speak for mercury poisoning. On the contrary, it is possible that minute quantities of mercury have a physiologic significance for the organism.

"Uremia" Resulting from Prolonged Vomiting.—Supplementing a report by Buschke on a case of fatal uremia without urinary or renal changes, Meyer describes several similar cases. What all these cases have in common is the frequent vomiting, the abnormal increase in the rest nitrogen and the more or less complete failure of the renal function without marked anatomic changes in the kidneys. In the cases observed by the author there was also exsiccation and acidosis. In one instance administration of insulin, of dextrose and of physiologic solution of sodium chloride led to complete retrogression of all symptoms.

10: 193-240 (Jan. 31) 1931

Paratyphoid Problem. K. L. Pesch.—p. 193.
*Acute Development of Macrocytic Erythroblastic Blood Pictures Without Anemia During Extreme Weakness of Right Cardiac Ventricle. E. Frank and E. Hartmann.—p. 195.
*Dietary Treatment in Chronic Arthritis. H. Strauss.—p. 199.
Physiologic Course of Motor Action of Colon. A. Oppenheimer.—p. 201.
Proteolytic Ferments of Human Leukocytes and of Blood Serum. H. A. Oelkers and H. Fischgold.—p. 205.
Demonstration of Brain Specific Antibodies in Human Syphilis. F. Georgi and Ö. Fischer.—p. 207.
Method of Aschheim-Zondek Reaction if Urine Contains Bacteria. C. Böhne.—p. 210.
Investigations on Pancreas Preparations. B. Umschweif.—p. 211.
Use of Illuminating Gas for Making Anatomic Preparations in Natural Colors. A. Schultz.—p. 213.

Blood Picture During Extreme Weakness of Right Ventricle.—Frank and Hartmann describe peculiar changes of the erythrocyte picture which they observed in six patients with severe cardiac disturbances. The clinical histories show that three of the patients had thrombosis of the coronary arteries and infarction of the myocardium with secondary formation of thrombi in the lower portion of the wall of the left ventricle, which also showed connective tissue degeneration and aneurysmal enlargement. In one case there existed an autochthonous thrombosis of the pulmonary artery with severe insufficiency of the hypertrophic right ventricle and congestion, and the other two patients were in the stage of severe decompensation with especially marked insufficiency of the right ventricle. In all six patients the right heart was especially weak, and they all died after several days or weeks. That the changes in the blood were not merely agonal signs is proved by the fact that they had already existed several days and even several weeks before death. Of especial interest is the fact that the qualitative changes in the erythrocyte picture developed without simultaneous decrease in the number of the erythrocytes. The qualitative changes were characterized by polychromatophilia and by the development of macrocytes, gigantocytes, erythroblasts and macroblasts, and of erythrocytes with nuclear fragments. The authors assume that there is a certain relation between the changes in the erythrocyte picture and the weakening of the heart action. They think that the etiology of the macrocytic reaction is similar to the etiology of polyglobulism in congenital and acquired stenoses of the pulmonary artery. In these conditions the organism compensates for a more difficult absorption of oxygen by an increase in the oxygen fixing masses. The authors express it as follows: If the transport of the blood to the pulmonary alveoli is made more difficult, the number of erythrocytes increases; and in acute insufficiency of the right ventricle the volume of each erythrocyte becomes greater; that is, macrocytosis develops. The occurrence of immature, large forms and of nucleated forms is the primary and provisional reaction; polycythemia, however, is the regular increased production of mature erythrocytes, and an adaptation to a permanent oxygen deficiency. It is pointed out that the macrocytic, erythroblastic blood picture develops only in some cases of acute cardiac insufficiency. In a larger number of similar cases only a slight anisocytosis was noted, whereas macrocytes and nucleated erythrocytes were absent. This makes it appear probable that only in patients with a certain constitution does the erythropoietic system react in this manner to an acute insufficiency of the right ventricle. In regard to the terminology the authors add that many of the nonnucleated red corpuscles which they term macrocytes were similar to those corpuscles that are commonly designated as megalocytes, and the same can be said with regard to macroblasts and megaloblasts.

Dietary Treatment of Chronic Arthritis.—Strauss first discusses the diet which Pemberton recommended for the treatment of arthritis and of rheumatoid conditions. The main factor of this diet is the reduction of the total number of calories with especial reduction of the carbohydrates. Pemberton justifies the limitation of the intake of carbohydrates by his observations of alimentary hyperglycemia in patients with chronic arthritis. The author, however, questions that in the majority

of patients with arthritis the sugar tolerance test shows a diabetoid blood sugar curve. In tests which he performed on thirteen patients with chronic polyarthritis he found only one blood sugar curve of a typical diabetoid character. He thinks that if it cannot be proved that the arthritis is caused, or unfavorably influenced, by a disturbance in the carbohydrate metabolism there is no justification for the special reduction of the intake of carbohydrates. But although he thinks that there is not sufficient reason for the reduction in the carbohydrates, he considers the reduction in the total number of calories, that is, the combat of obesity, as helpful in many cases. Besides this antiobesity diet the author recommends limitation of the fluid intake and a limited sodium chloride intake especially for those patients with signs of exudation. He observed that a salt-free diet had curative effects even when the calories were not reduced. For a certain type of "carnogenic" rheumatism he recommends abstinence from meat and a vegetarian diet. However, it is often difficult to determine whether arthritis or rheumatism is caused or unfavorably influenced by eating meat.

Medizinische Klinik, Berlin

27: 155-192 (Jan. 30) 1931

Acute Necrosis of Pancreas. M. Martens.—p. 155.
Genesis of Coxa Vara. H. Hilgenreiner.—p. 159.
Roentgen Diagnosis of Hyperplasia of Folds of Gastric Mucous Membrane. F. Windholz.—p. 163.
*Test for Determination of Efficacy of Treatment in Neurasthenia. O. Sperling.—p. 166.
Practical Remarks on Pathology and Therapy of Diseases of Eyes Caused by Hydrogen Sulphide. F. Stocker.—p. 167.
Bence-Jones Albumosuria. F. Müller.—p. 168.
Embolism of Superior Mesenteric Artery During Puerperium. R. Köhler.—p. 169.
*Pernicious Anemia Following Resection of Stomach. L. Berger.—p. 171.
Recent Investigations on Paleopathology and Their Results. K. Ehrenberg.—p. 172.

Determination of Efficacy of Treatment in Neurasthenia.—Sperling points out that in estimating neurasthenia the physician is largely dependent on the subjective statements of the patients. It is especially difficult to detect improvement or exacerbation. Therefore the author attempted to find a test that would permit an objective estimation of the neurasthenic symptoms. The patients draw with a fountain pen twelve straight horizontal lines at distances of the width of a finger. In order to maintain a standard velocity the examiner counts in two second intervals to eight while each line is drawn. For persons who as a result of their occupation have great facility in the manipulation of the pen, the test is made more difficult by drawing without support, free from the shoulder joint. In cases of nervous exhaustion, the lines indicate three distinct types of irregularities: 1. At the beginning of each line, and from the first to the last steadily decreasing in amplitude, there is a small-waved tremor, which is the expression of embarrassment or of general irritability. 2. At the end of each line, from the first to the last increasing in amplitude, or completely occupying the last lines, there are irregular larger waves or changes in the direction. These express fatigue. 3. Throughout the lines there are irregularities which correspond to the counting. These express anxiety. Thus the lines show the most important symptoms of neurasthenia definitely differentiated; namely, irritability, fatigability and anxiety. In this manner the statements of the patients can be verified, the present status can be compared with the former condition and the efficacy of a therapeutic measure can be determined. In tremor neuroses there is an unchanged tremor in all lines, similar to other disturbances that are accompanied by permanent tremor.

Pernicious Anemia Following Resection of Stomach.—Berger notes the history a woman, aged 69, who six years previously had a resection of the stomach on account of cancer. Except for an umbilical metastasis, which was removed ten months after removal of the gastric cancer, the patient felt well for several years. Then paleness with a slight icteric coloration became manifest, and the patient lost her appetite, became easily fatigued and had subfebrile temperatures. In the following years the patient had several similar attacks, which lasted several weeks, but finally she became extremely weak and came to the hospital. Roentgenoscopy of the gastro-intestinal tract revealed a well functioning gastro-entero-anastomosis. On the basis of the examination of the blood, the case was diagnosed as pernicious anemia. Liver therapy was instituted, hydrochloric acid was administered, and the patient also received several blood transfusions. At first her condition improved, but later she became gradually weaker and died. The necropsy revealed old tuberculous foci in the lungs which had flared up again and caused a fresh miliary dissemination in other organs. It is assumed that this complication was the cause of the fatal outcome. The great significance of the stomach in the pathogenesis of pernicious anemia has been demonstrated by experiments and is now widely recognized. This case is noteworthy because tuberculous processes flared up in the course of a pernicious anemia, while it is generally assumed that tuberculosis and pernicious anemia are antagonistic. Whether the oxygen deficiency in pernicious anemia creates unfavorable conditions for the growth of the tubercle bacillus, which requires much oxygen, or whether a constitutional factor is the cause cannot be definitely stated. This case shows that antagonism between pernicious anemia and tuberculosis is by no means a biologic law.

Monatsschrift f. Geburtshülfe u. Gynäkologie, Berlin

87: 1-268 (Jan.) 1931

General Indications for Abdominal Cesarean Section. G. Winter.—p. 3.
*Exclusion of Kidney by Roentgen Irradiation. W. Stoeckel.—p. 21.
Conservative Operation on Kidneys in Double Ureter. P. Strassmann.—p. 31.
Result of Misuse of Forceps. E. Martin.—p. 43.
Occlusion of Uterine Tubes Following Antefixation of Uterus in Sterility. S. Stephan.—p. 50.
Two Rareties in Adenoses: Internal Uterine Adenomyosis with Cyclic Changes in Size of Uterus, and Painful Vaginal Cysts. E. Sachs.—p. 55.
Operative Treatment of Incontinentia Urinae According to Goebell, Frangenheim and Stoeckel. H. Baumm.—p. 66.
Relations Between Female Genitalia and Vermiform Appendix, with Special Consideration of Prophylactic Appendectomy. G. Dencks.—p. 76.
*Pruritus Vulvae as Result of Pernicious Anemia. E. Schulze.—p. 91.
Therapeutic Attempts with Cholesterol in Septic Diseases. J. Finger.—p. 94.
Treatment in Placenta Praevia. G. Thiemke.—p. 110.
*Results of Treatment of Eclampsia. H. Müller.—p. 120.
Statistics on Puerperal Fever, Septic Abortion and Serotherapy. J. Kriele.—p. 126.
Anesthesia in Gynecologic and Obstetric Surgery. E. N. Stahnke.—p. 144.
Abdominal Cesarean Section. H. Tollas.—p. 172.
Intestinal Prolapse in Dehiscence of Abdominal Wound. O. Gerich.—p. 183.
Feeding of Premature Infants. A. Orgler.—p. 192.
Ray Therapy in Women's Clinic in Brandenburg. H. Knospe.—p. 198.

Exclusion of Kidney by Roentgen Irradiation.—Stoeckel points out that among cases of ureteral fistulas and of injuries of the ureter there are still some in which exclusion of the kidney is necessary. The nephrectomy, however, which then becomes necessary, is not always harmless, especially in pyonephrosis. In such cases Klein's method of nonsurgical exclusion of the kidney by means of roentgen irradiation would be of great help. The author mentions several authors who obtained favorable results with Klein's method. However, Döderlein as well as the author himself, who employed the roentgen irradiation for the exclusion of the kidneys in two cases each, did not obtain such results. The cases in which this treatment was used by the author are described in detail. In both cases urinary fistulas existed, and pyonephrosis had developed as the result of unsuccessfully treated vesicovaginal fistulas. In one instance septic uremia became manifest and in the other case serious cachexia developed, but in both patients the danger was overcome by nephrotomy. Roentgen irradiation was instituted in both cases with the object of exclusion of the kidney. This aim was not realized in either of the cases; however, in both instances the irradiation had a therapeutic influence on the infection of the kidney. In comparing the successes and failures of roentgen exclusion of the kidney it is noted that, in all cases of ureteral fistulas which developed following radical abdominal operation for cancer of the cervix, "cure" was obtained. In all these women the involuntary discharge of urine stopped, and this was explained as being due to the fact that the kidney belonging to the fistulous ureter had ceased to function following the roentgen irradiation. In the other patients, treated by Döderlein and by the author, respectively, it was not possible to exclude the function of the kidney by roentgen treatments. Accordingly, the question appears

justified whether in the "successful" cases the cure was perhaps effected in that during continuing renal function the ureteral fistulas healed, while as the result of irradiation the secretion of the kidney was temporarily reduced and the urinary infection was effectively counteracted.

Pruritus Vulvae as Result of Pernicious Anemia.—After discussing the various causes of pruritus vulvae and the local changes of the skin, Schulze reports the case of a woman, aged 63. Because the patient's urine was found to contain sugar, it was assumed that the pruritus was of diabetic origin. However, even after the diabetic symptoms had been counteracted the pruritus was still of the former severity. Local medicinal treatment, baths and roentgen therapy were likewise without effect. The patient's general condition grew steadily worse; she lacked appetite, lost in weight and her face was pale yellow. Pernicious anemia was now thought of, and liver diet was instituted. The examination of the blood revealed a hemoglobin content of only 57 per cent and the number of erythrocytes was 2,890,000. After four weeks of liver diet the pruritus commenced to disappear and after three months the epithelial changes on the skin of the vulva had completely disappeared. The blood picture improved likewise. That the woman had had pernicious anemia, which led to pruritus vulvae, is proved by the efficacy of the liver diet.

Results of Treatment of Eclampsia.—Müller discusses the various methods for treatment of eclampsia. The "moderately active therapy" that is recommended by Hammerschlag advises a symptomatic treatment with the aim of quick delivery. If the eclamptic patient is in the stage of expulsion, the treatment should be immediate delivery. If during the period of dilatation the medicinal, dietetic treatments fail, cesarean section is necessary. However, other authorities, as Stöckel for instance, advise active therapy for all cases of eclampsia. He recommends immediate delivery for all eclamptic patients. The author compares the mortality after the various methods of treatment, and he reaches the conclusion that under the same conditions the moderately active method gives the same results as the active method. In the extremely serious cases, immediate abdominal section is just as ineffective as other methods.

Münchener medizinische Wochenschrift, Munich

78: 179-220 (Jan. 30) 1931

Thrombosis and Embolism from Standpoint of Gynecologist. A. Mayer. —p. 179.
*Pathogenesis and Prophylaxis of Postoperative Pulmonary Complications. H. Reinberg.—p. 184.
*Calcium Therapy of Pneumonia. J. Kayser.—p. 186.
Early Diagnosis of Cancer of Uterus. E. Vogt.—p. 192.
Early Detection of Cancer of Portio Vaginalis by General Practitioner. K. Kaiser.—p. 194.
Position of Patient During Withdrawal of Gastric Contents. R. Schindler. —p. 194.

Pathogenesis and Prophylaxis of Postoperative Pulmonary Complications.—Reinberg asserts that in view of the recent investigations on the anatomy, physiology and pathology of the tracheobronchial system it can no longer be assumed that most postoperative pulmonary complications are due to cold, aspiration, embolism and hypostasis. The following factors, which decrease the volume and the depth of the respiratory movements of the lungs and make the respiration more difficult, are of causal significance in the development of postoperative pulmonary complications: 1. The continued, unnatural, horizontal dorsal position. 2. All beltlike bandages on the chest or abdomen which hinder the functioning of the diaphragm, the most important respiratory muscle. 3. Forced inhibition of the respiratory movement to avoid pain. 4. The operative trauma that inhibits the peristaltic movements of the tracheobronchial tree; since the peristaltic movements of the bronchi facilitate drainage of the lungs, atony and paresis of the bronchi cause stasis of the secretion. 5. The psychic shock, which is frequently underestimated and which has a retarding influence on all functions of the body and especially on the respiration; the psychic shock is the more pronounced in local anesthesia. 6. The unfavorable influence of the decreased respiration on the functioning of the heart. 7. Suppression of coughing. The author explains the mechanism of pulmonary collapse and of atelectasis and stresses the necessity of early recognition of atelectasis, because pneumonia frequently develops following it. To prevent pulmonary complications the continuous, horizontal dorsal position should be abandoned in favor of the physiologic half sitting position, the patient should be permitted to move freely in his bed, and in the case of helpless patients a frequent change of position is advisable. All beltlike bandages should be avoided. To reduce the psychic trauma, local anesthesia should as much as possible be replaced by general anesthesia. Respiratory exercises should be performed. Coughing should be stimulated rather than suppressed. The heart action and the blood pressure should be supported before the operation by the administration of fluids and of sugar, and in old and in weak patients by the administration of digitalis and of strychnine. In patients with collapse, the atelectatic portion of the lung can be reinflated by turning the patient from one side to the other. The author states that, if these precautions are taken, postoperative pneumonia becomes rare; it develops only when the pulmonary collapse is prepared by subphrenic, space limiting pathologic processes such as large pyonephrotic kidneys, kidneys containing a tumor, or splenomegaly.

Calcium Therapy of Pneumonia.—Kayser describes his experiences with calcium therapy in eighteen patients with pneumonia. Among the patients were some with lobar pneumonia and some with bronchopneumonia. The majority of the patients were men between the ages of 20 and 55. In regard to the method of the calcium therapy it is stated that a 10 per cent solution of calcium gluconate was generally administered in the form of intramuscular injections; only in one instance of pulmonary edema, where quick action was thought necessary, and in several hypersensitive patients, was the solution of calcium gluconate given intravenously. The intramuscular injections were given every three or four hours, and each time 10 cc. was administered. The maximum daily quantity was 50 cc. Beside the calcium injections the patients were treated with Priessnitz compresses and expectorants; as the only cardiac stimulant, they were given daily from 2 to 4 tablespoonfuls of infusion of digitalis (1.5 : 200). The author thinks that the favorable influence of the calcium on the pneumonic process is due mainly to its anti-inflammatory action. Other advantages of the calcium therapy are its favorable influence on the heart and circulation and its sedative effect.

78: 221-260 (Feb. 6) 1931

*Liver and Spleen in Exophthalmic Goiter. H. Assmann.—p. 221.
Vasoconstrictor Action of Iodine on Dilated Blood Vessels in Thyroid in Patients with Exophthalmic Goiter. Gebele.—p. 225.
Therapeutic Results with Blum's Diet, a Hormonal Substitution Therapy in Exophthalmic Goiter. E. Herzfeld and Frieder.—p. 226.
*Efficacy of Operative Treatment of Exophthalmic Goiter. G. W. Parade and M. Haas.—p. 228.
Enuresis Ureterica Caused by Supernumerary Ureter with Extravesical Termination. H. Albrecht.—p. 231.
Protective Therapy of Respiratory Passages Especially in Asthma. L. Hofbauer.—p. 232.
Experiences with New Artificial Amber Transfusion Apparatus (Lampert Neubauer). Hanf-Dressler.—p. 235.

Liver and Spleen in Exophthalmic Goiter.—Assmann states that signs of hepatic disturbances, especially of icterus, are rare in patients with exophthalmic goiter. He discusses the causes of such disorders. 1. Icterus may concur with exophthalmic goiter without having a causal relation to it. This is to be assumed when icterus presents the aspects of simple catarrhal jaundice and when it develops in patients in whom the exophthalmic goiter is of slight or medium severity. Likewise in such conditions as in cholelithiasis, in inflammatory disorders of the biliary tract, in syphilis or in other infectious diseases, a causal relaton between icterus and a simultaneously existing exophthalmic goiter is not probable. 2. If in existing cardiac insufficiency icterus concurs with enlargement and increased consistency of the liver and with manifestation of stasis in other organs, the icterus may be considered as being due to an engorged liver, as is usually assumed in cardiac insufficiency. Because decompensation of the heart is especially difficult to influence in exophthalmic goiter, these cases of exophthalmic goiter with severe cardiac insufficiency usually have a fatal outcome. 3. In rare cases, which usually present general signs of toxicosis, psychic unrest, somnolence and so on, and which usually have a fatal outcome, icterus develops without signs of cardiac insufficiency. In such instances the icterus is most likely due to toxic

influences of the hyperthyroidism. The most severe stage of such a toxic injury presents the aspects of acute yellow atrophy of the liver. 4. In the literature are reports also of a small number of cases in which cirrhosis of the liver concurred with exophthalmic goiter. The author concludes that icterus as an accompanying symptom of exophthalmic goiter is found mainly in the most serious cases. However, they do not necessarily end fatally. In three cases, the author observed that the icterus gradually disappeared together with the thyrotoxic symptoms. An enlargement of the spleen in exophthalmic goiter is observed more often than changes in the liver. If the cases in which stasis or infection are the cause or in which cirrhosis of the liver exists are disregarded, the enlargement of the spleen in exophthalmic goiter is usually a partial manifestation of a hyperplasia of the lymphatic apparatus.

Operative Treatment of Exophthalmic Goiter.—Parade and Haas evaluate the efficacy of the combination of iodine treatment with subsequent resection of the thyroid. Their evaluation is based on observations on twenty-two patients. The patients were given compound solution of iodine in increasing quantities of from 5 to 20 drops a day up to the day of the operation. After the fourth day of the preparatory iodine medication, the patients were given three times daily a digitalis preparation and also quinidine. Observations at the bedside revealed that the medication with iodine alone is generally not effective in counteracting the disturbances in the cardiac rhythm. Only when quinidine therapy is instituted do the existing irregularities disappear. This proves that the combination of heart tonics with iodine is an important factor in the preliminary treatment. It had the effect that the basal metabolism and also the pulse frequency showed a marked decrease already before the operation. Quinidine and digitalis alone are rarely effective in patients with exophthalmic goiter. Following the preliminary treatment a bilateral resection was done in most cases. In twenty of the twenty-two patients the result of the operative treatment was favorable. In two patients the surgical treatment had no effect. It was found that these cases had been incorrectly diagnosed, for the patients had sympathetic neurosis with goiter, but not true exophthalmic goiter. However, in the twenty patients the effect on the cardiac symptoms was excellent and the nervous symptoms disappeared likewise. However, the authors do not wish to give the impression that other methods may not be employed with success. Before operative treatment is resorted to, the more conservative measures should be tried. However, if within two or three months there is no improvement, surgical treatment becomes necessary. In newly developing exophthalmic goiter radical measures should at first be avoided, because in some cases it disappears again spontaneously. If it is considered that the operative treatment in combination with the preparatory iodine medication is a method by which the patient regains his working ability in the shortest possible time, and which in comparison to other methods effects the best permanent results, then it appears that every patient in whom internal therapy has failed should be advised to undergo operative treatment.

Wiener Archiv für innere Medizin, Vienna

21: 1-168 (Jan. 20) 1931

Blood Pressure and Vascular Tonus in Beriberi. W. C. Aalsmeer.—p. 1.
*Acid-Base Equilibrium in Diabetes with Especial Consideration of Urine. O. Satke and R. Bartolomey.—p. 29.
Acid-Base Equilibrium in Renal Diseases, with Especial Consideration of Urine. O. Satke and R. Bartolomey.—p. 35.
*Pathogenesis and Clinical Features of Paralysis of Recurrent Nerve. A. Arnstein.—p. 47.
Case of So-Called Inconstant Heart Block. A. Tur.—p. 53.
Is Frequency of Syphilis Decreasing? P. Steiner and A. Maller.—p. 79.
Histopathology and Treatment of Rheumatic Chorea. R. Lenz.—p. 95.
Terminal Pulmonary Edema Accompanying Hepatic Diseases. L. Hess.—p. 127.
Biochemical Researches on Osteitis Deformans. F. Lasch.—p. 159.

Acid-Base Equilibrium in Diabetes.—In patients with severe diabetes, Satke and Bartolomey have found an undercompensated hyperacidosis; there was a relatively low p_H and an increase of ammonia in the urine. The elimination of acids paralleled the ketonuria. While hyperacidosis indicated a tendency of the organism to eliminate most of the endogenous acid valences by the kidneys, the undercompensation was a sign of alkali retention. In some cases of diabetes of medium severity the acid-base equilibrium appeared undisturbed; in others an undercompensated normal acidosis or a compensated hyperacidosis was present. In cases of mild diabetes the acid-base equilibrium was normal.

Pathogenesis of Paralysis of Recurrent Nerve.—Among female patients, aged from 15 to 30, paralysis of the recurrent nerve was found by Arnstein in none; among those aged from 31 to 60, the occurrence was 0.4 per cent, and 2.3 per cent among women aged from 61 to 90. Thus among a total of 1,131 female patients, paralysis of the recurrent nerve occurred in 1.4 per cent. Among male patients aged from 15 to 30 the paralysis was observed in 0.4 per cent, in 1.7 per cent among patients aged from 31 to 60, and in 1.9 per cent among those aged from 61 to 90. Thus, among a total of 2,665 male patients, paralysis of the recurrent nerve was found in 1.3 per cent. Among the fifty-one patients treated, the paralysis was situated on the left side in forty-nine and on the right side in two. In thirty-seven cases the paralysis was caused by a tuberculous induration of lymph nodes; in nineteen of them the diagnosis was confirmed at necropsy. Typical giant cell tubercles were found in the lymph nodes but tubercle bacilli could not be detected. In nine cases the paralysis was occasioned by a carcinomatous infiltration; in one case there was compression of the nerve by an aortic aneurysm and in another the paralysis appeared to be of toxic origin. In one of seventeen surviving patients the paralysis proved to be produced by a goiter; in sixteen, changes in the lymph nodes were the probable cause of the paralysis. Further, among fifty-two patients with a malignant tumor in the chest, paralysis of the recurrent nerve was found in eleven. In ten instances it was associated with carcinomatous lesions of the lymph nodes. In a case of carcinoma located in the inferior lobe of the lung and in another located in the pyriform sinus, it was ascertained that the paralysis was caused not by a cancerous metastasis but by tuberculous lymph nodes.

Wiener klinische Wochenschrift, Vienna

44: 129-160 (Jan. 30) 1931

*Cancer and Heredity. J. Bauer.—p. 129.
*Contagiousness and Inheritability of Cancer. C. Ewald.—p. 134.
Experimental Investigations on Coronary Vessels and on Ventricular Fibrillation: Prophylaxis of Fibrillation. L. Braun and B. Samet.—p. 136.
Endarteritis and Periarteritis. H. Kahler.—p. 139. C'cn.
Obstruction of Intestine by Invagination in Children and in Adults. F. Starlinger.—p. 143.
*Facilitation of Percussion for Detection of Infraclavicular Pulmonary Processes. A. Kirch.—p. 145.

Cancer and Heredity.—Bauer discusses the following problems: 1. Is cancer hereditary or, more precisely, is there an hereditary anlage for cancer? 2. What is known about the nature and the transmission of this anlage? 3. In what relation do the doubtless existing exogenic factors of cancer pathogenesis stand to this hereditary cancer anlage? In regard to the first question the author reaches the conclusion that human pathology and experiments on animals indicate the existence of an hereditary anlage for cancer, more precisely for development of cancer in certain organs or systems of organs. However, there are indications not only for constitutional predisposition of certain organs to cancer but also for a general predisposition to blastoma. With regard to the nature of the cancer anlage it is assumed that the constitutional predisposition for cancer is based on the action of two diseased hereditary factors. In the discussion on the transmission of the cancer anlage it is stated that, if both parents develop cancer in the same organ or organ system, from 50 to 100 per cent of their children will develop cancer in the same organ. If both parents have cancer of different organs, the cancer frequency in the offspring is considerably less and hardly more pronounced than if only one of the parents had had cancer. It is further pointed out that if the hereditary theory of the pathogenesis of cancer is correct, in uniovulvar twins, that is, in persons of identical constitution, tumors or cancers should develop in both. The author knows of three sets of such twins; in all three instances the two twins developed the same type of cancer. In regard to the rôle of the exogenic factors in the etiology of cancer the author assumes

that these exogenic injuries, regardless of whether they are mechanical, chemical or of some other type, occasionally take the place of the constitutional predisposition. An organ or an organ system may be the locus minoris resistentiae because of an abnormal anlage or because of injurious influences.

Contagiousness and Inheritability of Cancer. — Ewald thinks that experience so far does not speak for the contagiousness of cancer. Occurrences that might be taken as indicators for the contagiousness are so rare that they may be considered as accidental. In discussing the hereditary transmission of the anlage for cancer, the author says that as yet there is not sufficient evidence to justify definite statements. The most widely spread opinion is that cancer is not hereditary or that its hereditary character is not particularly pronounced.

Facilitation of Percussion for Detection of Infraclavicular Pulmonary Processes.—Kirch points out that roentgen examination frequently reveals infraclavicular tuberculous infiltrates or even cavern formation, while the auscultatory percussion does not indicate such changes. In order to detect such infiltrates by means of percussion, the author advises that every patient be examined not only in the standing position but also in the recumbent position. When the patient is lying down, care should be taken that he rests solidly on the supporting surface and that he does not bend the head forward. In patients in whom infraclavicular infiltrates had been detected by roentgenoscopy, infraclavicular areas of dulness could be detected while they were in the recumbent position, whereas in the standing position these areas of dulness were not demonstrable or the dulness became more pronounced in the recumbent patient than it had been while the patient was standing. On the basis of experiences in a large series of cases the author recommends that in order to detect an infraclavicular infiltrate percussion should be done not only while the patient is standing but also in the recumbent position.

Klinicheskaya Meditsina, Moscow

8: 1049-1128 (Oct.) 1930

Basal Metabolism in Simmond's Disease. D. Shattenshtein.—p. 1079.
*Inoculations of Malaria for Treatment of Tabes. P. Miniovich.—p. 1085.
Surgical Treatment of Paralysis of Biceps Brachii. V. Svyatukhin.—p. 1099.
Study of "Black Dermographism." A. Imshenetskiy and F. Lemet.—p. 1103.
Pathogenesis of Raynaud's Disease. M. Borovskiy.—p. 1107.

Inoculations of Malaria for Treatment of Tabes. — Miniovich used the treatment in seventy-five patients with tabes; in fifty-four of them, clinical and serologic observations have been continued from six months to two years. Forty-five of the patients were men and nine were women; their age ranged from 24 to 58. The syphilitic infection was from five to thirty-six years' standing; in one, the disease was congenital. From 3 to 4 cc. of whole blood was injected intravenously or from 5 to 6 cc. subcutaneously. Malaria viruses of stock cultures conserved through continual reinoculations served for inoculation. The tertian type of malaria was chiefly used; the quartan type was employed in a few cases in which the patients appeared exhausted. The average of paroxysms to which the patients were exposed varied from twelve to fifteen; the minimal temperature was 39 C. (102.2 F.) and the maximal 41.8 C. (107 F.). Starting from the incubation period, the patients were given cardiac stimulants. In case of intolerance to the malaria treatment, quinine in a dosage of from 0.05 to 0.1 Gm. was prescribed. In two patients the treatment had to be interrupted on account of signs of cardiac decompensation and on account of a severe jaundice and of a menacing general weakness in two and in one, respectively. In a series of patients with induced tertian malaria, the fever ceased spontaneously after from three to eleven paroxysms; if injections of milk failed to provoke further paroxysms and inoculation of malaria could not be repeated, typhoid vaccine was injected intravenously. The initial dose of the vaccine contained 50 million bacilli; the dose was gradually increased. Injections of the vaccine were given twice a week; their total number amounted to from eight to twelve. There was a rise of temperature to from 39 C. (102.2 F.) to 40.8 C. (105.4 F.); the paroxysms of fever lasted from two to ten hours. The induced malaria was treated with quinine given by mouth; in cases of tertian fever, 1 Gm. of quinine was given daily for one week; in cases of quartan fever, 1 Gm. was given daily until the plasmodia disappeared from the peripheral blood, and was continued for five days. In patients previously not treated and with a positive specific reaction, the malaria inoculation was preceded by a half or a whole series of arsphenamine and bismuth treatment. The specific treatment was renewed as soon as the malarial fever ceased; it was repeated at intervals of two or three months. In patients with a negative seroreaction, the preliminary specific treatment was omitted and one series of arsphenamine and bismuth injections was given after the malarial fever vanished. Of thirty patients with lightning pains, seventeen recovered, ten improved and in three the condition remained stationary. Sometimes lightning pains first appeared during the malaria treatment. The history of two patients indicated that lightning pains have disappeared for one and one-half and two years after natural malaria has developed. In two instances there was recurrence of the pains after a year. In three patients, gastric crises vanished after ten to sixteen paroxysms of tertian fever, up to one and one and one-half years. The malaria treatment proved to be without effect in two cases of an extensive atrophy of the optic nerves. In twenty-nine of thirty-seven patients, positive seroreactions became negative or less intense; no changes were noted in eight. In eleven cases, positive Wassermann reactions of the cerebrospinal fluid became negative or less intense. Positive protein tests became negative in two and less intense in six; the number of lymphocytes in the cerebrospinal fluid returned to normal. Usually a positive mastic reaction persisted; in a few cases it became less intense. Improvement of serologic reactions occurred gradually, within about two years. Among sixteen patients with a pronounced ataxia, coordination of movements improved in six and the functioning of the bladder in three. In four cases paresthesia subsided, while extensive disturbances of sensibility remained unchanged. In three instances the patellar and the achilles tendon reflexes improved slightly; in others, they were not affected by the treatment. In two initial cases, anisocoria subsided and the reaction to light improved; in the remainder, the objective neurologic signs remained unchanged. In all, the malaria treatment was followed by gain in weight from 4 to 9 Kg.; the working capacity of many patients improved or became even restored. In cases in which reactions are negative and subjective signs are absent the malaria treatment may arrest the degenerative processes. The author suggests that malaria treatment be tried in cases in which the patients are young and the infection is recent; that is, when the prognosis for specific treatment is unfavorable.

Vrachebnaya Gazeta, Leningrad

No. 23: 1711-1785 (Dec. 15) 1930

*Amino-Acidemia in Acute Hepatic Diseases. E. Gartseva and A. Myasnikov.—p. 1721.
Physiology and Clinical Features of Axillary Trichosis. A. Epstein.—p. 1726.
Internal Hydrocephalus Complicating Epidemic Cerebrospinal Meningitis. V. Leonov.—p. 1730.
*Negative Results from Potassium in Treatment of Encephalitis. G. Ishchenko.—p. 1733.
*Amidopyrine and Sodium Salicylate in Treatment of Acute Polyarthritis. L. Korobkov.—p. 1745.
*Application of Ice for Treatment of Nocturnal Enuresis. A. Kuteykin.—p. 1751.

Amino-Acidemia in Acute Hepatic Diseases.—Gartseva and Myasnikov determined the amount of amino-acids in the blood of patients with hepatic diseases. The amino-acids were measured in the beginning, at the crisis of the disease, and during convalescence. In nine of eighteen patients, the acute infectious or toxic jaundice was of an unknown etiology; in the other nine, it resulted from syphilis of the liver and treatment with arsphenamine. About 8 mg. of amino-acids per hundred cubic centimeters was considered as the maximal amount normally found in the blood. At the crisis of the disease the amount of amino-acids proved to be from 9 to 11 mg.; it returned to normal during convalescence. In a case of acute yellow atrophy of the liver, the amount of the amino-acids reached 13 mg. In three cases of jaundice of mechanical origin (obstruction of the common bile duct in two and tumor in

one) the amino-acidemia was normal. In several patients with cholecystitis and high temperature the amount of amino-acids remained unchanged. It proved also to be normal in patients with nonhepatic diseases, except in those with severe cardiac lesions, lobar pneumonia, leukemia or diabetes; then the amino-acidemia appeared increased. The results confirmed the fact that the hepatic cells are involved in acute jaundice of infectious and toxic origin, or in that caused by syphilis and arsphenamine.

Negative Results from Potassium Used in Treatment of Patients with Encephalitis.—Ishchenko had verified the action of potassium permanganate in seventeen patients, eleven men and six women, with epidemic encephalitis. From 1 to 2 cc. of a 1 per cent solution was injected subcutaneously; the total of the injections ranged from 30 to 40. No improvement was observed in any of them, especially with regard to the motor disturbances. The injections were well tolerated.

Amidopyrine and Sodium Salicylate in Treatment of Rheumatic Polyarthritis.—Korobkov reports the results of the use of amidopyrine in the treatment of eighteen patients with an acute rheumatic polyarthritis. First a dose of 0.3 Gm. was given every two hours; it was repeated eight times during the day. The treatment was continued until the acute phenomena disappeared; then the dose was gradually decreased. Sometimes amidopyrine was followed by sodium salicylate given in a dosage of 4 Gm. a day. The author stresses that the effect of amidopyrine was surprising; it exceeded by far that obtained even with large doses of sodium salicylate. Within the first day the temperature became normal and the pains subsided or greatly decreased; the swelling of the joints was markedly reduced. Two or three days later the swelling disappeared and movements were restored. In patients with a nonarthritic constitution and an attenuated rheumatic infection of only the large joints the action of amidopyrine was rapid. There were no recurrences up to several months; the patients resumed their work. In patients with an arthritic constitution, the small joints were also involved and endocarditis was frequent. In such cases, intolerable pains vanished after from eight to twelve doses of amidopyrine but recurrences appeared as soon as the treatment was discontinued. The action on valvular endocarditis was slower than on joints; the murmurs became attenuated; sometimes they even disappeared. In some patients the murmurs persisted or subsided only when amidopyrine was completed by a protein treatment. Injections of milk proved to be able to prevent the appearance of recurrences. The initial dose of milk was from 2 to 4 Gm.; it was gradually increased to from 13 to 16 Gm. The injections were first given at intervals of a day, and later according to the reaction. No recurrences were observed up to four months. Recently, of two patients with an acute rheumatic polyarthritis one was treated with amidopyrine and the other with 8 Gm. of sodium salicylate daily. The first patient, with a diseased tarsal joint, was able to move around the next day; the second was unable to get up even on the third day of the treatment and continued to suffer with intense pains. Nausea, constipation and headache were the by-effects of the amidopyrine treatment; they usually subsided on administration of a laxative. No cardiac complications were ever observed.

Application of Ice to Lumbosacral Region for Treatment of Nocturnal Enuresis.—The method was used by Kuteykin in thirty-three males and two females, aged up to 20 years. In all cases the enuresis was a primary one; it was an essential form. While the patient was lying on the abdomen, a thin layer of fine common salt was spread over his lumbosacral region. The salt was then covered with a layer, one or two fingers thick, of broken ice, which was again covered by a thin layer of salt. This was left for two or three minutes, until the skin became white; then it was removed. The applications took place two or three times a week, or even every day. A series of treatments lasted from four to six weeks; it was repeated after an interval of from four to six weeks. After one or two such series, the involuntary discharge of urine was reduced from every night to once or twice a week; in some cases it subsided entirely.

Vrachebnoe Delo, Kharkov

13: 1089-1183 (Aug. 31) 1930

Two Cases of Hemorrhagic Capillary Toxicosis. B. Dubinskaya and A. Khavkin.—p. 1097.
Influence of Heliotherapy on Blood Sugar of Patients with Osteo-Articular Tuberculosis. A. Sorkin.—p. 1107.
*Changes in Nervous System in Angioneurotic Gangrene. B. Sharapov.—p. 1111.
Clinical Value of Phrenic Phenomenon in Cases of Interrupted Extra-Uterine Pregnancy. Ya. Pavlovskiy.—p. 1115.
Treatment of Tuberculous Peritonitis in Children. E. Zalkindson and D. Shenkman.—p. 1118.

Histologic Lesions in Angioneurotic Gangrene.—Sharapov had the opportunity to examine microscopically three cases of spontaneous gangrene. Extensive destruction of cells in the sympathetic ganglions and changes in the cells of the lateral horns were constant; the lesions were located in sections corresponding to the gangrenous limbs. In two instances the suprarenals proved normal; in the third, the suprarenal cortex was destroyed. There was regeneration of some fibers in the anterior roots and of peripheral nerves. In one case, sclerotic changes of the vascular walls were considerable; in two, thickening of the vascular media was marked. The results confirmed that changes in the lateral horns and sympathetic ganglions are the causal factor of angioneurotic gangrene.

Nederlandsch Tijdschrift voor Geneeskunde, Haarlem

75: 561-696 (Feb. 7) 1931

Some Remarks on Death and Apparent Death Due to Action of Electric Current. R. de Josselin de Jong.—p. 563.
Benign Fibrous Tumors of Face Chiefly of Myxomatous Nature ("Menggezwellen"). C. Bonne.—p. 575.
Ovulation Period and Conception Period as Bases for Periodic Continence in Wedlock. G. C. Nijhoff.—p. 578.
*Postvaccinal Encephalomyelitis. F. S. van Bouwdijk Bastiaanse.—p. 586.
Tabes Dorsalis in Its Social Aspects. L. J. J. Muskens.—p. 596.

Postvaccinal Encephalitis.—Van Bouwdijk Bastiaanse emphasizes that it is strange that the disease in a serious form did not appear until around 1922, at about which time an increase in the number of cases of epidemic encephalitis was observed in several countries, and shortly afterward a marked increase in the number of cases of poliomyelitis. At present, the number of cases of epidemic encephalitis is decreasing in the Netherlands. It is expected that also the number of cases of poliomyelitis will diminish within a few years. The chances seem good that within a reasonable time also the number of cases of postvaccinal encephalitis will decrease. For the time being, the physician can merely advise his clients to vaccinate the children at a time that presents the smallest chance of the feared complication; namely, during the first year of life.

Ugeskrift for Læger, Copenhagen

93: 51-72 (Jan. 15) 1931

*Serologic Examinations in Infection with Brucella Abortus. M. Kristensen, T. Helms and A. Martensson.—p. 51.
*Acute Epidemic Myalgia in Iceland. R. K. Rasmussen.—p. 56.

Serologic Examinations in Infection with Brucella Abortus.—Kristensen and collaborators report that, of eighty-two persons whose work brought them closely into contact with cattle infected with *Brucella abortus*, twenty-two gave a positive seroreaction with this micro-organism (agglutination, complement binding or both). Of the twenty-two, six gave agglutination in the dilution 100 or more; one of these with especially marked reaction was believed to have undulant fever. All of 152 tuberculous patients at Boserup sanatorium gave a completely negative reaction.

Acute Epidemic Myalgia in Iceland.—Rasmussen says that this disease has long been known in Iceland. He reviews the Icelandic epidemics.

93: 73-96 (Jan. 22) 1931

Focal Infection: Attempt at Orientation. T. Brandt.—p. 73.
*Asthma in Relation to Age and Sex. K. H. Baagøe.—p. 79.
Neurosurgery in Northern Countries. K. H. Krabbe.—p. 81.

Asthma in Relation to Age and Sex.—In Baagøe's 311 patients with asthma the male sex dominated among patients, with asthma setting in before the fifth or after the fortieth year. There seemed to be no special age disposition to asthma, but a positive cutaneous reaction was most often found in patients aged from 10 to 30, and in all age groups more frequently in men than in women.